PALEONTOLOGICAL RESOURCES OF THE FORT CARSON MILITARY RESERVATION, COLORADO

By

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PREFACE

The paleontology survey reported in this manuscript is an important part of the Fort Carson Cultural Resources Management Program whose goal is to maintain the largest possible area for military training while protecting significant cultural and environmental resources. The current study is a demonstration project funded by a grant awarded to Fort Carson by the Legacy Resource Management Program. Congress established Legacy in 1991 to provide the Department of Defense (DoD) with an opportunity to enhance the management of resources on lands under DoD jurisdiction.

The Directorate of Environmental Compliance and Management (DECAM) is tasked with maintaining Fort Carson's compliance with federal, state, and local environmental laws and mandates. The DECAM holistic management philosophy considers that all resources are interrelated such that decisions affecting one resource will impact other resources. The decisions we make today will affect the condition of Department of Army lands and resources for future training, research, and recreation. Mission requirements, training resources, wildlife, range, soil, hydrology, air, and recreation influence management decisions. Integrating compliance and resource protection concerns into a comprehensive planning process reduces the time and effort expended on the compliance process, minimizes conflicts between resource protection and use, allows flexibility in project design, minimizes costs, and maximizes resource protection.

Federal laws protect the resources on Fort Carson and the Pinon Canyon Maneuver Site. Theft and vandalism are federal crimes. Protective measures ensure that Army activity does not inadvertently impact significant cultural and paleontological sites. Fort Carson does not give out site location information nor are sites developed for public visitation. Similar resources are located in the Picketwire Canyonlands where public visits can be arranged through the U.S. Forest Service, Comanche National Grasslands in La Junta, Colorado.

Fort Carson endeavors to make results of the resource investigations available to the public and scientific communities. Technical reports on cultural resources are on file at the Fort Carson Curation Facility (Building 2420) and the Colorado State Historic Preservation Office and are available through the National Technical Information Service, Springfield VA. Selected reports have been distributed to public libraries in Colorado. Three video programs produced by Fort Carson are periodically shown on Public Broadcasting Stations. Fort Carson continues to demonstrate that military training and resource protection are mutually compatible goals.

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TABLE OF CONTENTS

| NTIS Form | ii |
|--|--------|
| Preface | iii |
| Table of Contents | iv |
| List of Map and Figures | v |
| Technical Abstract | vi |
| Popular Abstract | |
| Acknowledgements | viii |
| Introduction | 1 |
| Methods | |
| Stratigraphy | 3 |
| Paleontologic Resources | 4 |
| Sensitivity Ratings | 4 |
| "Critical" Sites | 4 |
| Morrison Formation | 6 |
| The "Little Grand Canyon" upper fossiliferous zone of the Graneros Shale _ | 8 |
| Coral Site of the Lincoln Limestone Member of the Greenhorn Formation | 10 |
| Juana Lopez Member of the Carlile Shale | 10 |
| Niobrara Fish Site | 13 |
| Oolite Rock Sites | 14 |
| Paleontologic Sites of less than "Critical" Sensitivity | |
| "Significant" Sites | |
| "Important" Sites | |
| "Insignificant" Sites | |
| Results of the Survey of Fort Carson Military Reservation | 20 |
| Management Recommendations | |
| General | 22 |
| Specific | |
| Research Recommendations | |
| Specific Research Recommendations | |
| | 25 |
| Appendix A: Paleontological Component Forms A-1 through | h A-55 |

List of Map and Figures

| Мар 1. | Fort Carson Military Reservation, Colorado. The areas blacked out were surveyed for this report. | 2 |
|--------|---|----|
| Fig. 1 | Stratigraphic column of the sedimentary rock units exposed in the Fort Carson Military Reservation | 5 |
| Fig. 2 | Morrison Formation exposed in "Dino Hill" | 7 |
| Fig. 3 | Caudal vertebrae of a diplodocine sauropod from silts in the upper Morrison Fm | .8 |
| Fig. 4 | Aerial view of the "Little Grand Canyon" showing arroyo in Graneros Shale and Greenhorn Formation. | 9 |
| Fig. 5 | Oyster bed with sharks' teeth, including the rare taxon <i>Ptychodus decurrens</i> , in shaly limestone. | 9 |
| Fig. 6 | Ridge forming Codell Sandstone Member of the Carlile capped by weathered | 12 |
| Fig. 7 | | 12 |
| Fig. 8 | Water eroded limestone of the Niobrara Formation exposed in banks of dry streambed. | 13 |
| Fig. 9 | | 14 |
| Fig.10 | Oolitic limestone exposed at the contact of the Sharon Springs Member and the Rusty Zone of the Pierre Shale. | 16 |
| Fig.11 | Unique exposure of oolitic limestone, which overlies deformed gypsiferous | 16 |
| Fig.12 | | 17 |

TECHNICAL ABSTRACT

The sedimentary rocks at Fort Carson Military Reservation contain various outcrops of paleontologic significance. Outcrops with significant paleontologic resources range from the Jurassic, Kimmeridgian, Morrison Formation to various undifferentiated Pleistocene alluviums.

The Jurassic stratigraphic sequence consists of the Middle Jurassic Bell Ranch Formation and the overlaying Morrison Formation, which is Upper Jurassic. Only the Morrison Formation has proven to be fossiliferous on Fort Carson. The Morrison Formation is made up of grey-green and red silts, which in the lower 2/3 of the section have common beds of gypsum. Near the contact of the upper 1/3 of the Morrison Formation is a thin fresh water algal limestone that is a marker for this interval on Fort Carson. The upper 1/3 of the Morrison consists of grey-green silts containing swelling clays grading upward into red non-swelling silts. A diverse and significant assemblage of lower vertebrates, fossil wood, and calcitic ichnofossils were discovered near this swelling, non-swelling contact.

The marine Upper Cretaceous sediments at Fort Carson are, in part, very fossiliferous. Many of these fossil localities demonstrate both the geology and paleontology of published localities throughout Colorado, in particular, and also New Mexico, Utah, and Kansas. Eight sites were recorded that have paleontological resources that will add to the scientific understanding of the marine Upper Cretaceous in the Western Interior. The Upper Graneros Shale contains a rare taxon of Elasmobranch, Ptychodus decurrens. The Lincoln Limestone Member of the Greenhorn Formation has a site, which contains an unusual solitary coral, various Elasmobranchs, and a diverse invertebrate fauna. The Juana Lopez Member of the Carlile Shale contains a concentration of vertebrate taxa including 17 identified Elasmobranchs and a diverse suite of Osteichthyes fossils. It is likely that new taxa are included in this assemblage. One locality near the Fort Hayes Member and Smokey Hill Member contact of the Niobrara Formation has both Osteichthyes fossils and an Inoceramid that could represent a new taxa or a taxa previously not reported from the Western Interior Seaway. A locality at the contact of the Sharon Springs Member and the Rusty Zone of the Pierre Shale is a small oolitic limestone mass where the nuclei of the oolites frequently consist of bones, teeth, and scales of Osteichthyes. Both the geology and paleontology of this limestone is singular and of the highest scientific interest.

It is recommended that all of the localities that are classified as critical scientific resources should be managed as sensitive sites and that research into these localities should be encouraged.

POPULAR ABSTRACT

Fort Carson Military Reservation contains a rich and diverse fossil assemblage. This includes animals with backbones, vertebrates, such as dinosaurs, sharks, fish and turtles. Animals without backbones, invertebrates, that have been found at Fort Carson include: clams, oysters, coral, ammonites (an extinct animal related to squids), and snails. Traces of animals are also found in the rocks at Fort Carson. These include the burrows of marine worms and shrimp; also found were the burrowing and nesting structures of insects that lived with the dinosaurs. Fossil wood and fossil plant leaves are also found at Fort Carson. All these fossils represent extinct forms.

The Morrison Formation is world famous for its dinosaur fossils. There are some very interesting Morrison dinosaur sites on Fort Carson. These sites have the large plant-eating dinosaurs called Sauropods and small dinosaurs that are less well known to science. With the dinosaurs are fossil wood, turtles, and traces of insects. This is called a fossil biota and is important to understanding the environment in which the dinosaurs lived.

During part of the time of the dinosaurs a great Inland Sea covered much of the Western Interior of the United States. Many of the sedimentary rocks deposited on Fort Carson were deposited in this seaway. Fort Carson has a rich assortment of fossil sites from this seaway. Some of these sites are of importance to science. These include sites that have rare of new types of animals. At Fort Carson this includes sharks, coral, and a type of clam called an Inoceramid that is either new to science or not previously reported from North America. Coral is rare in the Western Interior Seaway. One site has 17 different types of sharks that have been identified with many more shark and fish fossils that still need to be classified.

These and other marine sites at Fort Carson well add to the scientific understanding of the Western Interior Seaway.

ACKNOWLEDGEMENTS

The authors would like to acknowledge Debbie Baldwin, Brett Boyer, Gloria McKinney, and Chris Weege for their contributions to the field surveys performed for this report. Government personnel that aided in the fieldwork include Randy Korgel and James Kulbeth of Fort Carson and Melissa Connor of the National Park Service. Paleontological Investigation (PI) would like to extend appreciation to DECAM and the Army for making possible an aerial survey of the geology of Fort Carson. PI would like to especially extend appreciation to Maj. Gen. John M. Riggs, Base commander of Fort Carson, for the concern expressed for this project during a meeting in the field.

Dr. William Cobban, USGS, identified invertebrate taxa and offered valuable discussions regarding the Cretaceous marine in the Western Interior. Dr. Fred Peterson, USGS, contributed useful discussions on the stratigraphy of the Jurassic section including changes in the formational names and their meanings incorporated into this report. Dr. J.D. Stewart, Los Angeles County Museum, contributed to the understanding of the Mesozoic fish of Fort Carson.

RESULTS OF THE FIELD STUDY OF THE PALEONTOLOGICAL RESOURCES OF

FORT CARSON MILITARY RESERVATION, COLORADO

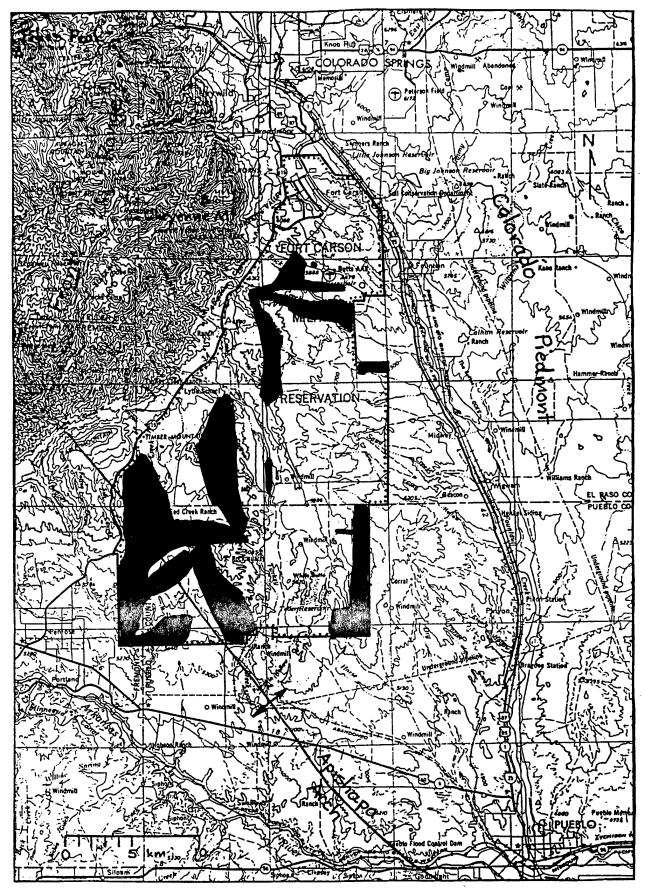
INTRODUCTION

Fort Carson Military Reservation is located on the east side of the Rocky Mountains south of Colorado Springs, Colorado (Map 1). Sedimentary rocks are exposed throughout the Fort. All of the sedimentary rock formations exposed at Fort Carson have produced fossils. Some of these sedimentary rocks are highly fossiliferous. These include much of the marine Upper Cretaceous formations and the terrestrial Morrison Formation. These fossils include vertebrate, invertebrate, plant, and trace fossils. Other sedimentary rock units at Fort Carson are not noted for abundant fossils. These include the Fountain and Lyons Formations, the Dakota Group, and the various Quaternary deposits. This field study is concentrated on the more fossiliferous sedimentary rocks reported at Fort Carson (Carpenter, 1979 and Evanoff, 1996).

The purpose of this report is to: 1) document fossiliferous exposures on Fort Carson and to describe these exposures in their paleontologic and geologic context. 2) Determine the scientific significance of these exposures for land management considerations. 3) Update existing maps of paleontologic significant areas.

METHODS

This project was conducted as a pedestrian survey concentrating on those outcrops deemed of the highest scientific significance by Evanoff (1996) and other outcrops that were observed and deemed to be worth studying during the course of the survey. Particular attention was given to the Upper Cretaceous marine outcrops including the Graneros Shale, Greenhorn Limestone, Carlile Shale, Niobrara Formation, the Pierre Shale and the terrestrial Jurassic Morrison Formation. This fieldwork also attempted to relocate the field sites reported by Carpenter (1979). Fieldwork was performed between 09/23/97 and 09/10/98. Douglas Nelson performed a majority of the fieldwork with assistance from Fred Olsen and Bob Raynolds. Debbie Baldwin, Brett Boyer, Gloria McKinney, and Chris Weege performed additional fieldwork. Small collections were recovered from select sites to: 1) Study the taxonomy of the fossils. 2) Document the scientifically most important sites. 3) Study the taphonomy and geologic environment of sites with unique properties.



Map 1. Fort Carson Military Reservation, Colorado. The areas blacked out were surveyed for this report. After Evanoff (1996)

The pedestrian surveys were conducted by various methods as deemed appropriate to the observed outcrop. All outcrop was initially surveyed by a pedestrian transect of the exposed rock units. When a fossiliferous facies was observed that facies was surveyed laterally throughout the extent of the outcrop. This was not always possible in cases of cliff forming outcrop or steep banked arroyos where field safety would be a concern.

Formations with extensive exposure (over two linear miles) were spot surveyed at selected locations. These formations include the Juana Lopez Member of the Carlile Shale, the Niobrara Formation, and the Pierre Shale excluding the Sharon Springs Member

The Morrison Formation at Dino Hill and the Sharon Springs Member in the area of site 05/31/98-01 were surveyed meter by meter in the potential fossiliferous facies.

Work at Pl's offices included: 1) preparation and identification of recovered specimens of both fossils and rocks, 2) thin sections were prepared and studied from a unique fossiliferous facies from the Pierre Shale, 3) acid disaggregation was used on some rocks to free vertebrate fossils, and 4) corrections were made to maps of fossiliferous potential supplied by the National Park Service.

STRATIGRAPHY

The stratigraphy and geology of Fort Carson has previously been reported (Evanoff, 1996). The fieldwork for this paleontological report has, in general, confirmed the work of Evanoff. While geology is not the focus of this report we have updated the terminology and understanding of the Jurassic section at Fort Carson to reflect the contemporary model used for these rocks (Fred Peterson pers. com. 1998; Litwin, 1998; and Peterson & Turner, 1998). This in no way reflects on the elegant understanding of the geology of Fort Carson in Evanoff's report. Other publications that directly concern the stratigraphy and geology of Fort Carson, at least in part, are: Aulia, 1982; Carpenter, 1979; Hassinger, 1959; Krutak, 1996; Orr, 1976; and Pinel, 1977.

The changes to the Jurassic section include the removal of the use of "Ralston Creek Formation" in the Fort Carson area of Colorado and the addition of the "Bell Ranch Formation" for rocks of Middle Jurassic age. The rocks formerly considered to be the Ralston Creek Formation are, in this report, referred to the Lower Morrison Formation These Lower Morrison rocks are green-grey to red mudstones with common thin beds of gypsum. Some of the gypsum beds can be a meter thick in parts. The Bell Ranch Formation at Fort Carson is made up of red mudstones with common gypsum beds. These beds are

separated from the Morrison Formation by an unconformity (Fred Peterson, pers. com.1998). The Bell Ranch Formation is considered Middle Jurassic in age (Peterson, 1998; and Litwin, 1998). Previously these rocks of the Bell Ranch Formation were usually considered as the upper part of the Lykins Formation or possibly the lower part of the Ralston Creek Formation

The balance of the stratigraphy observed during the fieldwork for this report agrees with Evanoff's report on Fort Carson (See Fig. 2).

PALEONTOLOGIC RESOURCES

The principal focus of this report is the paleontologic resources observed during the fieldwork conducted by PI at Fort Carson and the evaluation of the scientific significance of those resources.

The scientific significance of any particular fossil site usually depends on a suite of criteria that must be applied to that particular site. These criteria usually include: 1) uncommon or rare taxa present at the site. 2) The geologic setting of the site might be unique or unusual demonstrating an interesting taphonomy and/or paleo-environment 3) Many different taxa present at any one site. 4) Vertebrate fossils are generally considered to be scientifically important. 5) Any site that produces new taxon becomes the type-site for that particular taxon. This study of Fort Carson has produced sites that fit within all the above criteria for scientific significance.

Sensitivity Ratings

The fifty-three sites recorded in this report have been given sensitivity ratings based on the five criteria above. These sites are rated from the highest scientific significance to the insignificant in four categories: "critical", "significant", "important" and "insignificant". This rating system is adapted from the Colorado State "Paleontological Component Form".

"Critical" Sites

The upper part of the Morrison Formation, upper fossiliferous part of the Graneros shale, Lincoln Limestone Member of the Greenhorn Limestone, Juana Lopez Member of the Carlile shale, and the contact between the Sharon Springs Member and the Rusty Zone, (Gilbert, 1897) of the Pierre Shale all produced sites of "critical" sensitivity.

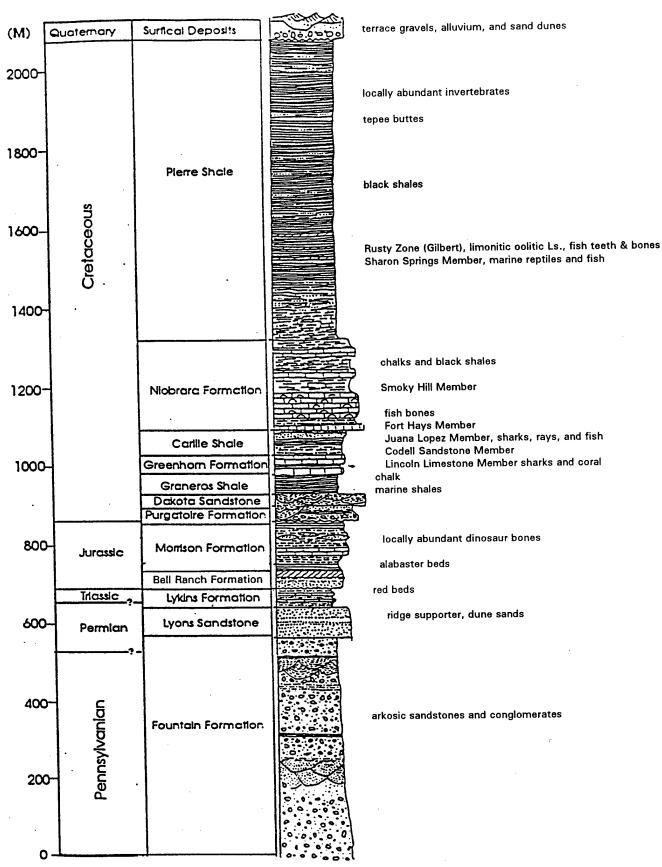


Figure 1. Revised stratigraphic column of the sedimentary rock unit exposed in the Fort Carson Military Reservation. After Evanoff and others (1996).

Fifteen individual sites have been designated with a sensitivity rating of, "critical", (see Appendix A). This designation is based on the scientific significance of these individual sites based on the five criteria above. It should be noted that certain "critical" sites have a further consideration of possible disturbance of these sites that could be destructive of important scientific data. (See sites: 10/05/97-01, 11/07/97-01 and 02/26/98-01)

Morrison Formation (Sites: 04/24/98-01, 04/25/98-01, 04/25/98-02,04/25/98-03, 04/25/98-04, 04/25/98-05, 04/25/98-06)

The upper part of the Morrison Formation to the north and south of Sullivan Park have important accumulations of dinosaur bone. The south side of Sullivan Park has a grouping of sites on a slope named, in this report, Dino Hill. Sites04/25/98, 1 through 5 represent a concentration of vertebrate, invertebrate, plant, and trace fossils (Fig. 2).

Dino Hill exposes the Bell Ranch Formation at it's base and has exposures of the Lower and Middle Morrison Formation Near the top of the Middle Morrison or near the bottom of the Upper Morrison is an algal limestone bed. The algal limestone is a thin, no more than 12 centimeters, grey stromatolitic bed. This limestone was observed throughout the Sullivan Park area and serves as a good marker bed. The Upper Morrison has grey-green silts in the exposed lower half and red silts above. Thin limestones and sandstone lenses are present. Fossils are found in both green and red silts that are approximately 20 meters below the contact with the Lytle Formation sandstone. The straigraphically lowest vertebrate fossil recovered was a scute of the turtle Glyptops sp. recovered from a thin limestone. Fossil wood was observed in association with the turtle scute in adjoining silts. The silts resting above this limestone have a rich accumulation of dinosaur bones. Four caudal vertebrae were observed from a diplodocine sauropod (Fig.3). A scapula from an unidentified sauropod was observed. Several gastroliths and small pieces of petrified wood were found in the same area. The silts also produced calcareous cast trace fossils that are reminiscent of the burrowing structures or nests of unidentified insects.

The rich and varied association of various fossils in one site is of the highest scientific significance. It is also noteworthy that the dinosaur bones we found are in silts that would make quarry work and fossil preparation much more practical than those found in a

more indurated matrix. The Dino Hill sites discussed above are in part, possibly equivalent to Hassinger's Dinosaur Bone site, (Hassinger, 1959).

A survey of the Morrison Formation on the north side of Sullivan Park produced two more sites with dinosaur bones, (04/25/98-06 & 07). This area is mostly vegetated but where outcrop is found there are good vertebrate sites. Fossils that would represent a much smaller animal (10-20 kilos) were observed at 04/25/98-06. These fossils were found in grey-green silts in an exposure of about 1,000 sq. meters. Fossils of smaller lower vertebrate taxa are relatively less common and would indicate that this site should be studied in depth.

The Timber Mountain sections of the Morrison were surveyed for this report. The Morrison in this area is very poorly exposed. This area is heavily vegetated. Most of the outcrops observed were armored with boulders and cobbles of Cretaceous sandstones. The Morrison is often disturbed by gravity slump. The best exposures in the Timber Mountain area were of the Lower Morrison and non-fossiliferous. Only one site from this area was recorded, 09/27/97-01, which had bone fragments and gastroliths.



Figure 2. Morrison Formation exposed on "Dino Hill". A resistant bed of alabaster in the middle Morrison stands out on hillside. The Lytle Sandstone caps the hill. The view is to the east.



Figure 3. Caudal vertebrae of diplodocine sauropod from the silts in the upper Morrison Fm.

Unless future disturbance, artificial or natural, produces better exposure of the Morrison, the Timber Mountain area is not of the highest paleontologic interest.

The "Little Grand Canyon" upper fossiliferous zone of the Graneros Shale (Site: 02/26/98-01)

The upper fossiliferous unit of the Graneros at this site produced a mass mortality assemblage of ammonites. The taphonomy of this assemblage should be studied in more detail. Also shark teeth of at least three taxa were observed in a thin oyster bed found as float at the base of this large arroyo, (Fig.5). This oyster bed is in a dark shaly limestone. The shark taxa include: *Ptychodus decurrens* (A rare taxon, Welton & Farish, 1993), *Squalicorax curvatus* and a Lamniformes. While the contact of the Lincoln Limestone Member of the Greenhorn Limestone and the Graneros Shale is exposed at this site, (Fig.4), the dark shaly matrix would indicate that the shark teeth are from the Graneros. Attempts to find the oyster bed *in-situ* were not successful during the fieldwork for this report.

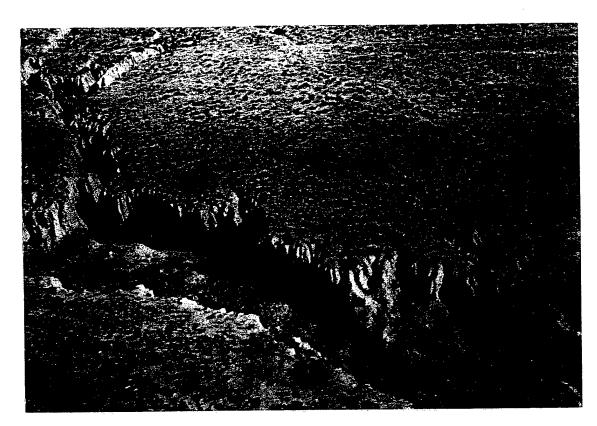


Figure 4. Aerial view of "Little Grand Canyon" shows arroyo in Graneros Shale and Greenhorn Formation. The view is to the south.

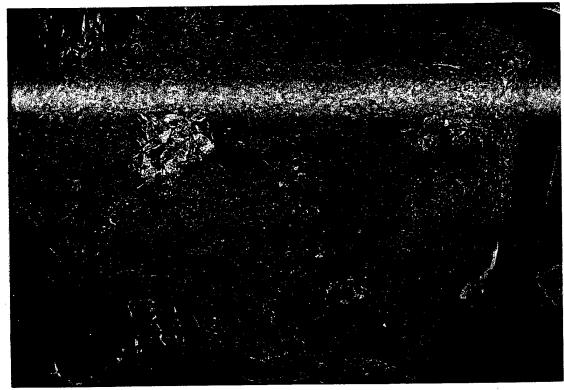


Figure 5. Oyster bed with sharks' teeth, including rare taxon *Ptychodus decurrens*, in shaly limestone.

Coral Site Lincoln Limestone Member of the Greenhorn Formation (Sites: 11/02/97-01 and 11/02/97-02)

These sites demonstrate the importance of rare taxa in adding to the understanding of the paleo-ecology of a particular stratigraphic unit. An invertebrate assemblage of ammonites, bivalves (oysters) and a most interesting solitary coral were recovered. Also teeth from two shark taxa were observed: *Squalicorax curvatus*, and a Lamniformes.

Coral is uncommon in the Western Interior Seaway. The discovery of a coral at this site is important. Coral indicates a warm water environment with very little clastic supply. The Lincoln limestone, at this site, is dark brown to grey, flaggy, with ripple marks, and is bioturbated in part. This limestone contains oyster beds associated with the sharks teeth. Further study of this site may produce additional taxa, both vertebrate and invertebrate. Careful mapping and a study of the taphonomy would add to the understanding of the paleo-ecology of this interval of the Greenhorn.

Juana Lopez Member of the Carlile Shale (Sites: 11/01/97-02 and 07/19/98-02)

Two sites in the Juana Lopez Member of the Carlile Shale have produced vertebrates and invertebrates of scientific significance, (Fig.7). One site, 11/01/97-02, currently has a recovered faunal list with 26 entries of which 17 are Elasmobranchs. Many other Elasmobranch fossils from this site have yet to be identified. The Osteichthyes include *Encodus* spp. and a diverse assemblage of crushing type dentition including Pycnodontiformes (Nursall, 1993) and other taxa that are currently under study. One invertebrate is of unusual interest; this being a small Echinoidea. Echinoids are rare taxa in the Western Interior Seaway.

Another important Juana Lopez site was discovered at the end of the field season for this report, 07/19/98-02. While this site is rich in vertebrate fossils, disaggregation of matrix has not been possible at the time of this report.

The Juana Lopez is a condensed section of sandstone resting at the top of the Codell Sandstone, (Fig. 6). This contact is a scour surface where present on Fort Carson. The Juana Lopez varies in thickness from about 0.25 meters to 1 meter. Fragments and prisms of Inoceramids are common. The oyster *Lopha ivgubris* is found throughout the section. Phosphate nodules, coprolites, sharks teeth and fish teeth and bones are a normal part of this sandstone. The ammonites *Prinocyclus* spp. are found as casts throughout the Juana Lopez. *P. novomexicanus* has been identified at site 11/01/97-02. The contact between the Juana Lopez and the Fort Hayes Members of the Niobrara Formation is most often weathered and debris covered at Fort Carson.

Geologically the Juana Lopez sandstone has been interpreted as barrier bar and lagoonal sands in a shallow water environment, (Aulia, 1982 and Krutak, 1996). This report can add to that understanding since the taxa reported at Fort Carson, in this report, are considered shallow water dwellers.

All the sharks and rays identified at site 11/01/97-02 are considered shallow warm to temperate water taxa. While modern sharks of the family Mitsukurinidae are deep water animals *Scapanorhnhus raphiodon* as well as other Mitsukurinidae were shallow water taxa until the early Maastrichtian, (Kent, 1994). The fact that *Cretoxyrhina mantelli* is not found at this site is significant. This shark is common in this time period but is interpreted as a deepwater taxa, (J. D. Stewart, pers. com.1998).

Rhinobatus incertus has been identified from this site. This is considered a rare taxon and has not been previously reported from Colorado. Fossils of families Hemiscylliidae and Sclerorhynchidae that have not yet been fully identified may represent new taxa. Many of the identified Elasmobranchs represent extensions of known ranges.

Detailed study of the vertebrate and invertebrate fauna of the Juana Lopez at Fort Carson will increase the understanding of these taxa and the environment in which they existed.

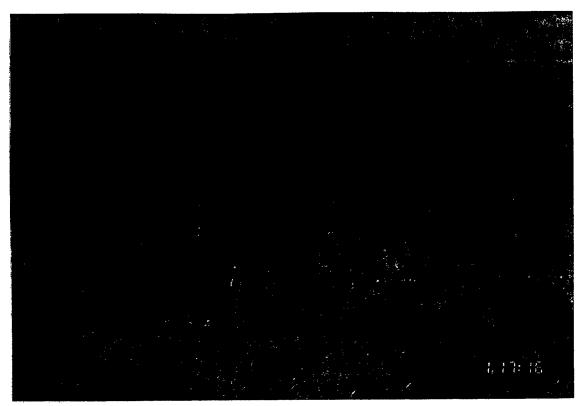


Figure 6. Ridge forming Codell and Juana Lopez sandstone Members of the Carlile Shale are capped by weathered Fort Hays Limestone. View to the east of ridge west of Stone City.

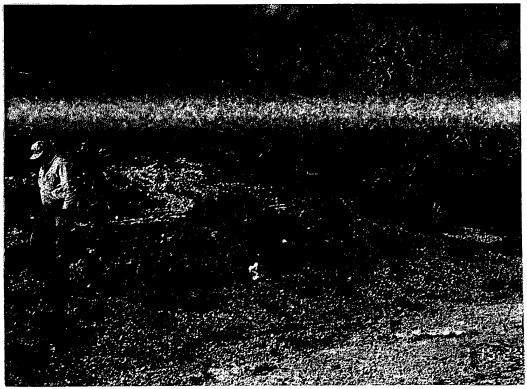


Figure 7. Outcrop of the Juana Lopez Member of Carlile Shale. The Juana Lopez is a limonitic calcarinite that contains a diverse vertebrate biota. View to west from tank trail.

Niobrara Fish Site (Site: 05/30/98-02)

This site is in the bank of a modern intermittent stream (Fig.8). The exposure at this location is about six meters of shally limestone. This limestone is flaggy to massive; dark grey weathering to a very light grey (Fig.9). This limestone contains fish bones, teeth, and scales. A problematic Inoceramid was recovered from this site.

This site is near the contact of the Ft. Hayes Member and the Smokey Hill Member of the Niobrara Formation The stratigraphic position is uncertain at this time. It is possible that the fish might be of bio-stratigraphic utility (pers. com. J. D. Stewart, 1998). The Inoceramid recovered is not common in the Western Interior Seaway. This fossil could be a new taxon or a taxon not previously recorded from this area. This taxon most closely resembles the European *Cremnoceramus crassus* (pers. com. William Cobban, 1998). Both the fish and the Inoceramid are currently under study.

This is a critical site because it is possibly a type site for a new taxon or the first report of this taxon from the Western Interior Seaway. Further, fish are not common from this interval and the recovered samples will add to our understanding of marine vertebrates.



Figure 8. Water eroded limestone of Niobrara Formation exposed in banks of dry streambed. View to the north.

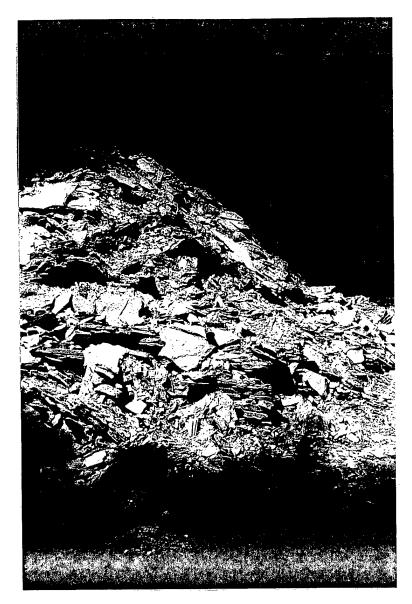


Figure 9. Rockfall of shaly Niobrara Limestone into dry streambed. Several taxa of fossil fish and an unidentified Inoceramid were recorded from this site.

Oolite Rock Sites

(Sites: 10/05/97-01 and 11/07/97-01)

The Oolite Rock sites are two sites of critical scientific interest at the contact of the Sharon Springs Member and the Rusty Zone of the Pierre Shale. The principal site, 10/05/97-01, consists of a structure about 3X4 meters on its face, (Fig. 10). This structure is on a steep face and deforms the uppermost layers of the Sharon Springs Member on which it rests (Fig. 11). The upper 2/3 of this rock is a limestone with an iron oxide content that colors this mass red-orange. The limestone is mostly composed of oolites. These oolites are

very roughly divided into two forms that grade into each other. One form is spherical to elliptical with a calcitic core and up to five laminated layers of iron oxide precipitate. The second form has a core of fossil fish bone or teeth sometimes with a calcitic rind and sometime with just various numbers of layers of iron oxide precipitate (Fig. 12). The fossil fish cores can range from microscopic to 3 centimeters. The fish fossils can be teeth, bones and scales. The only taxon noted at the time of this report is Enchodontidae. The lower 1/3 is a highly gypsiferous fissile shale that contains the same fossil fish hash. One piece of fossil wood was observed in these shales. A weathered bentonite is found in these shales. The shales adjoining this mass do not contain the fossils that define this mass.

The second site11/07/97-01, is about one kilometer north of the first and again is at the contact of the Sharon Springs Member and the Rusty Zone of the Pierre. This site is again a mass on a steep slope. This one is about 3.5X1 meters. There is no hematitic part to this structure. This structure consists of highly gypsiferous shales with an abundant fish hash. The limestone part, if it existed, could have eroded away.

At this time the relation of these two structures remains problematic. No similar structures were found in the opposite walls of either arroyo. Whether these structures represent a long thin connected deposit or are discrete masses awaits further study. These sites present more questions than they answer. This depositional environment is extremely rare in the Western Interior Seaway. Only one other oolitic site has been reported and that is from the Colorado Plateau on the Colorado-Utah border, (Van Wagoner & Bertram, 1995). The taxonomy and taphonomy of the fossils need to be studied in detail. The geology of these structures is unique and at this time enigmatic.

Much effort was placed on surveying the Sharon Springs Member of the Pierre Shale in the area of these sites. The Sharon Springs, in this area, was remarkable for the lack of fossils, (see site, 05/31/98-01).



Figure 10. Oolitic limestone exposed at contact between Sharon Springs Member and Rusty Zone of the Cretaceous Pierre Shale. View to the northeast.

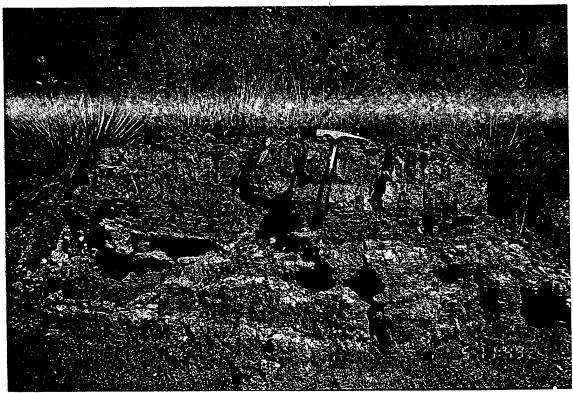


Figure 11. Unique exposure of oolitic limestone, which overlies deformed gypsiferous and bentonitic shales. View to the north.

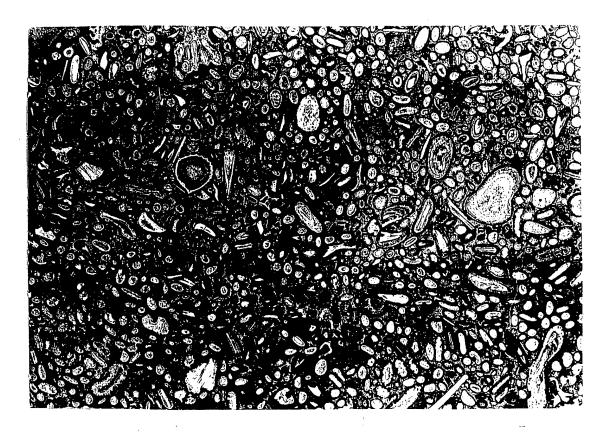


Figure 12. Photomicrograph, X5, of limonitic oolitic limestone. Many ooids are cored with fish bones and teeth. Cross section of *Encodus* sp. tooth in upper left center of slide.

Paleontologic Sites of less than "Critical" Sensitivity

Fifty-three sites were recorded during the fieldwork for this report. Thirty-eight of those sites are designated as less that "critical". These thirty-eight sites have been designated "significant", "important", or "insignificant". These sites range from the Jurassic in age to the Pleistocene. For specifics on the paleontology, geology, and other observations see Appendix A of this report.

Fort Carson contains excellent examples of the fossil record from the Upper Morrison, Kimmeridgian through the Pierre Shale, Upper Campanian. Rocks of the Upper Cretaceous, Maastrichtian through Tertiary are not present at Fort Carson. Pleistocene deposits have been sparsely fossiliferous. Stratigraphic units older than the Morrison Formation are present at Fort Carson (see Figure 1), but were not examined for this report.

Fort Carson is rapidly becoming unique in having excellent examples of the geology and paleontology of eastern Colorado in pristine condition. Many traditional sites in this area are rapidly succumbing to urbanization. While many of the sites in this report represent known occurrences of taxa and their geologic setting these sites are a potential resource for future study and education.

"Significant" Sites (09/26/97-02, 09/28/97-02, 10/18/97-02, 11/01/97-01, 11/08/97-01, 04/25/98-07, and 07/18/98-01)

All seven sites designated as "significant" are of scientific importance but do not meet the criteria necessary for a "critical" designation.

Three sites (09/26/97-02, 09/28/97-02 and 04/25/98-07) have vertebrate fossils but these fossils are both poorly preserved and have a lower potential for further recovery of more interesting specimens.

Site 10/18/97-02 has produced important vertebrate fossils in the past (Carpenter, 1979), though none were observed during this survey. Since this site is in regular use it is possible that vertebrate fossils may be exposed in the future.

Site 11/08/97-01 has an unusual assemblage of vertebrate, invertebrate and plant fossils though the preservation of these fossils is poor. Research at this site may produce interesting information regarding paleo-ecology and taphonomy of the Pierre Shale.

Two sites (11/01/97-01 and 07/18/98-01) are not of the highest scientific interest in themselves but should be included with the study of other sites that have been classified as "critical" sites. Each of these sites is close to another site that is in a higher stratigraphic position. Careful biostratigraphical studies may provide valuable insights in developing a more complete paleo-ecological understanding of these areas. This association has raised the sensitivity of these sites to the "significant" level.

Site (11/01/97-01) is an exposure of the Fort Hayes Member of the Niobrara Formation at the contact of the Juana Lopez Shark Site (11/01/97-02). It is the proximity of this marine vertebrate site to the overlying marine invertebrate site that provides an opportunity for the careful study of the paleo-fauna at these two sites that may produce a more accurate biostratigraphic placement for the interformational contact on Fort Carson. The Juana Lopez site has produced a *Prionocyclus novimexicanus* within .5-meter of the

scour surface contact with the Fort Hayes Member. If an accurate biostratigraphic placement can be determined for the base of the Fort Hayes, then an estimate of the amount of "missing time" represented by the scour surface could be determined.

The strata-containing site (07/18/98-01) can be traced laterally to the hill containing the dinosaur sites at "Dino Hill". A disconformity is generally placed at the contact between the Lytle Member of the Purgatorie Formation of lower Cretaceous age and the Upper Jurassic Morrison. Site (07/18/98-01) is an ideal location to study this contact in context of the fossiliferous "Dino Hill".

"Important" Sites

(09/23/97-01, 09/27/97-01, 09/28/97-01, 10/04/97-01, 10/11/97-02, 10/11/97-03, 10/18/97-01, 10/19/97-01, 10/19/97-02, 10/19/97-03, 10/23/97-01, 10/23/97-02, 11/02/97-03, 11/07/97-02, 11/20/97-01, 11/21/97-01, 11/21/97-02, 11/25/97-01,11/26/97-01, 02/24/98-01, 02/24/98-02, 02/25/98-01, 05/31/98-01, 07/04/98-01)

Twenty-four sites have been given a sensitivity rating of "important" in this report. A majority of these sites have common invertebrate fossils in good association with the geology of the individual sites. These fossils and the geology associated with them have been described from other sites in the Front Range of Colorado. Listing these sites as "important" means that good examples of both the paleontology and geology are found at these sites, but nothing observed at these sites can be considered unique or rare.

Two sites, (11/25/97-01 and 05/31/98-01) designated as "important" are placed in this sensitivity rating for reasons other that the above criteria.

Site 11/25/97-01 has poor preservation but many individuals of a juvenile baculite. These common juveniles may represent an interesting paleo-ecological facies suitable for further research.

Site 05/31/98-01 is a section of the Sharon Springs Member of the Pierre Shale. A meter by meter pedestrian survey of the Sharon Springs outcrop in this area was conducted. Only one small fish vertebra was observed. This is unusual since the Sharon Springs Member is noted for it's vertebrate fossils. This site has a sensitivity of "important" since future surveys of the Sharon Springs may produce vertebrate fossils exposed by weathering.

"Insignificant" Sites (09/26/97-01, 10/11/97-01, 11/08/97-02, 11/08/97-03, 11/08/97-04, 11/25/97-02, 05/30/98-01)

Seven sites have been given a sensitivity rating of "insignificant". In general, the rating of "insignificant" denotes that these sites are depauperate in fossil taxa and those fossils observed are so poorly preserved that they don't represent specimens that are useful for specific identification.

The fossil log observed at site 05/30/98-01 not only meets the above criteria but also was not found *in situ*. The loss of the geologic context for fossil remains generally denotes a sensitivity of "insignificant".

Results of the Survey of Fort Carson Military Reservation

The reports of Carpenter, (1979) and Evanoff, (1996) indicate that Fort Carson Military Reservation would produce fossils of scientific significance. Both of these reports suggest that the Morrison Formation and the Sharon Springs Member of the Pierre Shale could produce valuable vertebrate fossil resources.

The Sharon Springs Member was identified in the area of site 05/31/98-01. A meter by meter pedestrian survey of the Sharon Springs outcrop was conducted with disappointing results. Only one small fish vertebra was observed. Since the Sharon Springs is noted for fossil vertebrates this result does not meet normal expectations.

The Morrison Formation was surveyed throughout the west side of Timber Mountain. The Morrison north of Sullivan Park, i.e. Timber Mountain, is generally vegetated, armored by large clasts of Dakota Sandstone, covered by Holocene soils, and prone to gravity slumps. This area did not prove to be suitable for good fossil sites within the Morrison Formation The above statements are also true regarding the Morrison to the west of Camp Red Devil.

The Morrison Formation to the east of Camp Red Devil, in the Sullivan Park area, did produce sites that are of scientific significance. In particular, the area named "Dino Hill" in this report has fossil resources of the highest significance. Dinosaur bones were observed in an excellent geologic context. In association with these fossils are algal beds, turtles, fossil wood, and trace fossils that may represent insect borrows. The paleontology of the Sullivan Park Morrison Formation has not been studied making the Dino Hill sites an important extension of known Morrison sites and a valuable resource for future study.

The marine Cretaceous formations on Fort Carson were, in part, expected to produce common invertebrate fossils. Thirty-five of the fifty-three recorded sites have marine invertebrates. This represents a rich and varied record meeting expectations for known fossiliferous marine rocks on Fort Carson.

Three sites produced invertebrates of particular scientific interest. Site 02/26/98-01 in the upper fossiliferous zone of the Graneros Shale was observed to have a mass mortality assemblage of the ammonite *Acanthoceras amphibolum*. Site 11/02/97-02 in the Lincoln Limestone Member of the Greenhorn Limestone contained a solitary coral, which is a rare occurrence in the Western Interior Seaway. Site 05/30/98-02 in the Niobrara Formation contained a taxon of an Inoceramid that could be a new taxon or a range extension of a taxon that is now known from Europe.

This survey produced a better than expected record of marine vertebrates. The Juana Lopez Member of the Carlile Shale, at Fort Carson, is of particular scientific interest. The site 11/01/97-02 has seventeen identified taxa of Elasmobranchs. Most of these represent the first report of these taxa from Colorado. A few of the fossils from this site may be new taxa. Both the Lincoln Limestone at site 11/02/97-01 and the Graneros Shale at site 02/26/98-01 have Elasmobranch fossils of scientific interest.

Near the contact of the Fort Hayes Member and the Smokey Hill Member of the Niobrara Formation at site 05/30/98-02 Osteicthyes fossils were observed. These fish fossils represent a rare occurrence at this stratigraphic position. Further, these fossils could be valuable bio-stratigraphic indicators (J. D. Stewart pers. com.1998).

The marine vertebrates observed at Fort Carson are of particular scientific interest and represent a resource of unexpected value.

Management Recommendations

General

All the sites that have been designated as of critical scientific importance may be managed as sensitive sites. Any disturbance to these sites may be monitored by paleontologists. Any collections recovered from these sites should be curated in an institution that will protect these resources in perpetuity. Institutions should follow contemporary guidelines that make these resources easily available for study by the scientific community.

It has been demonstrated, at sites 02/25/98-01 and 10/18/97-02 (see Appendix A), that regular activities at Fort Carson result in the exposure and/or destruction of potentially important fossil resources. All construction areas and maneuver sites might be monitored by paleontologists when these activities could result in disturbance to sensitive formations. This would include formations from the Morrison to the Pleistocene.

Management recommendations are included in each of the individual site reports.

Specific

The sites 10/05/97-01, Oolite Rock and 11/07/97-01, Fish Parts North are in imminent threat of destruction by erosional forces. These two sites may be studied in depth both for their unique geology and paleontology. These studies would ideally result in peer reviewed publication. Collections should be recovered during this study, and curated in an appropriate institution.

The "Little Grand Canyon" site, 02/26/98-01, is exposed in an arroyo that is considered to be a safety hazard. DECAM has plans to fill in this arroyo. Before the arroyo is filled, a study might be conducted that would include the measurement of a detailed stratigraphic column.

This is the best exposure of the contact of the Graneros Shale and the Greenhorn Formation observed at Fort Carson. The oyster bed with sharks' teeth should be identified within the stratigraphic column. Since this bed has produced one rare taxon a larger vertebrate collection should be recovered and studied.

One site described by Carpenter (1979), FC-7, in the Sharon Springs Member of the Pierre Shale is of great scientific interest. This site produced both marine reptiles and fish. At this time the site is closed by the Army. The recovered specimens and documentation have been lost. This site is not included in the site reports since it was closed at the time of this study. Since this is one of the most significant paleontological sites on Fort Carson, it is recommend that if at any time in the future the Army finds that it is safe to enter this area it would be appropriate that this site be studied by a paleontologist and the recommendations of Carpenter (1979) should be followed.

Research Recommendations

Fort Carson contains an abundance of fossil resources suitable for paleontological research. From the Morrison Formation through Pleistocene the field studies for this report have demonstrated a potential for further scientific investigations.

As per the guidelines for the field studies for this report, efforts were concentrated in the Morrison Formation and a survey to locate the Sharon Springs Member of the Pierre Shale. While both these efforts were successful, time to study other formations on Fort Carson was limited. The efforts to survey other fossiliferous sections of Fort Carson produced a number of sites of critical scientific interest. Future surveys could be conducted to fill in the gaps in areas that could not be included in this report. This would include the marine Cretaceous in the Turkey Creek drainage and the Pleistocene alluvium throughout Fort Carson.

Appendix A contains research recommendations pertinent to individual sites surveyed for this report.

Specific Research Recommendations

The Morrison Formation in the Sullivan Park area and in particular those sites at "Dino Hill" should be studied in more depth. These sites offer an excellent opportunity to compile a detailed stratigraphic column. The sequence from the Bell Ranch Formation through the contact of the Morrison Formation and the Lytle Member of the Purgatoire Formation is well exposed along the slope of this hill. The association of multiple dinosaur fossils, turtles, fossil wood, and ichnofossils should be studied as an important record of taphonomy, geology, and paleontology of the Upper Morrison Formation. It should be noted

that the paleontology of the Morrison Fm has not been previously studied in the Fort Carson area.

The Lincoln Limestone Member of the Greenhorn Formation in the area of the sites named, Lincoln Sharks and Lincoln Limestone Coral should be collected in depth to develop as complete a taxa list as possible for these sites. A detailed stratigraphic column from the Graneros Shale to the Bridge Creek Limestone should be constructed. This data should be included with the existing understanding of the vertebrates and rare invertebrate recovered from these sites for this report.

The Bridge Creek Limestone Member of the Greenhorn Formation is well exposed and documented in six individual sites in this report. (See Appendix A). In Evanoff's report on the paleontology of the Pinon Canyon Maneuver Site, (Evanoff, 1998), he referred to Earl Kauffman's report on that Site in reference to the Bridge Creek Limestone, (Kauffman, 1986). Evanoff implied that Kauffman made a significant contribution to the understanding of the Bridge Creek Limestone in that paper. The understanding of the six Bridge Creek Limestone sites at Fort Carson and their management recommendations should be reevaluated in light of Kauffman's report. This report is not available at the time of this writing.

The Juana Lopez Member of the Carlile Fm. has produced a scientifically significant biota at the sites named J.L.'s Sharks and J. L.'s Sharks North. Twenty-six taxa have been documented. The Osteichthyes and Elasmobranchs are currently under study. It is highly likely that new taxa or taxa not previously reported from North America are included in this collection. The current study of these fossils should continue. These studies should be published in a peer reviewed scientific journal.

The Niobrara Formation at Fort Carson has a site of scientific potential named Niobrara Fish. This site has produced one taxon of Inoceramid that is either a new taxon or a taxon not previously reported from North America. This taxon should be studied to determine the identity of this animal. This site has also produced fossils of fish that are currently under study. This study should continue. This site is at an unconstrained interval near the contact of the Ft. Hayes Member and the Smokey Hill Member of the Niobrara Formation. Every effort should be made to identify the position of this site more precisely within the Niobrara Formation

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Appendix A

Paleontological Component Forms

| 1) Resource No. 09/23/97-01 PALEONTOLOGICAL COMPONENT FORM | | | | | |
|--|-----------------------|---|----------------------------|---|--|
| | | 2) TempNo: | 1 3) Site Name | Little Tepee | |
| Northing: | | Easting: | | | |
| I. PALEONTOLOG | ICAL DATA: | | , | | |
| 4) Type of Locality | Invertebrate | | | | |
| 5) Formation/Horiz | on/Geologic Age | Pierre Sh | B.scotti zone | *************************************** | Upper Cretaceous |
| 6) Description of Go | eology and Topogra | aphy | | | |
| Limestone "tepee"type exposure on the west | | rs in height. Limestone | grey, weathering brown. | Mostly grass covered | with some good |
| Specimen | | | | | |
| Jeletzkytes n. sp. | | | _ | | |
| Baculites scotti | | | | | |
| Nymalucina occidenta | lis | | _ | | |
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| | | | | | |
| | | | | | |
| | | | | | |
| 8) Paleoecologic Infe | erences | | | | |
| . • | | e" type structure. It has | s been suggested that the | se structures represe | nt warm springs on the |
| marine floor. | | · , p · · · · · · · · · · · · · · · · · | boon ouggootou tilut tije | ee en dotaree represe | ne warm opinigo on the |
| | | | | | |
| | | | | | |
| 9) Research Potenti | | | | | |
| Work still needs to be | done on the nature of | of these tepee structur | es. Other areas offer rich | er resources for this re | esearch. |
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| 10) Recommendation | one for Further Wa | ante | | | |
| No further work recom | | | | | |
| TWO Iditales Work recoil | imended at this time | • | | | |
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| | | | | | |
| 11) Known Collection | ons/Excavations/l | Publications/Other | Forms | | |
| N/A | | | | | |
| | | • | | | |
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| | | | | | |
| 12) Sensitivity |) Critical 🔘 signi | ficant | nt O insignificant | Ounknown | |
| II. ADMINISTRATI | VE DATA: | | | | |
| 15) Fossil Storage | Ft. Carson | | · · · | , | NA - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - |
| 16) Recorder DLN | | | | D-4- | 10/8/08 |
| 10) Rocolder Delt | | | | Date | 10/8/98 |
| | | | | | |

| 1) Resource No. 09/26/97-01 | | PALEONTOLOGICAL COMPONENT FORM | | | | |
|-----------------------------|---------------------------|--------------------------------|---|----------------------|-------------------------|--|
| | | 2) TempNo: | 2 3) Site Name | Fred's Dakota Plants | | |
| Northing: | | Easting: | | | | |
| PALEONTOLOG | ICAL DATA: | | | | | |
| Type of Locality | Plants | | | | | |
| Formation/Horiz | zon/Geologic Age | Dakota Fm. | unknown | (| Cretaceous | |
| Description of G | eology and Topograp | phy | | | | |
| ot diagnostic as they | / display only primary v | eination. | asses of plant leaf fossils ut the Dakota at Ft. Carso | | dstone. The fossils are | |
| pecimen | | | | | | |
| arious plant leaves | | | - | | | |
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|) Paleoecologic In | ferences | | | | | |
| | th masses of leaf litter. | | | | | |
| luviai Sanusione wi | un masses of leaf litter. | | | | | |
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|) Research Poten | | st of condutons donosi | ion | | | |
| his site demonstrat | es a fluvial environmer | it of samustone deposi | don. | | | |
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| • | ions for Further Wo | rk | | | | |
| lo future work requi | red. | | | | | |
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| | | | | | | |
| 1) Known Collect | tions/Excavations/F | Publications/Other | Forms | | | |
| I/A | | • | | | | |
| | | | | | | |
| | | | | | | |
| 12) Sensitivity | ◯ Critical ◯ signi | ificant | at insignificant | Ounknown | | |
| I. ADMINISTRAT | rive data: | | | | | |
| 5) Fossil Storage | | | | | · | |
| 1 | | | | 1 | 40/43/09 | |
| 16) Recorder DLI | N | | | Date | 10/13/98 | |

| 1) Resource No. 09/26/97-02 | | PALEONTOLOGICAL COMPONENT FORM | | | |
|--|--|--|--|--|--|
| | | 2) TempNo: | 3 3) Site Name Fred's | Gastrolith Site | |
| Northing: | | Easting: | : | | |
| . PALEONTOLOG | ICAL DATA: | | | | |
| 1) Type of Locality | Vertebrate | | | | |
| 5) Formation/Horiz | on/Geologic Age | Morrison Fm. | Upper Morrison | Jurassic | |
| 5) Description of G | eology and Topogra | aphy | | | |
| Rolling hills of Morrisco coulders of Dakota sa | on Fm. silts and thin ndstone. The Morris | sandstones. These hil on sandstone, above t | ls are grass and tree covered. Th his site, has casts of vertebrate b | ne crowns are armored with broken cones. | |
| Specimen | | , · | <u> </u> | | |
| Bone fragments | | | | | |
| gastroliths | 144 | | _ | | |
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| | | | | | |
| part of the Morrison. | : 1/0: -:5 | | | | |
| 9) Research Potent | ial/Significance | | | | |
| Low | | | | | |
| 10) Recommendati | ons for Further W | ork | | | |
| No further work requi | red at this time. | A A A A A A A A A A A A A A A A A A A | | | |
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| | | | | | |
| | · /D /: | /Dublications /Other | Porme | | |
| • | ions/Excavations/ | Publications/Other | FOLIIS | | |
| N/A | | | | | |
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| | | | | | |
| | | | | | |
| 12) Sensitivity (| Critical 💿 sign | nificant O importa | ant \bigcirc insignificant \bigcirc unk | rnown | |
| II. ADMINISTRAT | IVE DATA: | | | | |
| 15) Fossil Storage | N/A | | | | |
| | | | | Date 10/13/98 | |
| 16) Recorder DLN | i | | | Date 10/13/98 | |
| | | | | | |

| Resource No. 09/ | 27/97-01 | PALEONTOLOGICAL COMPONENT FORM | | | |
|---|--|--------------------------------|-----------------------------|------------------------|------------------|
| Na di ia a | | 2) TempNo: | 4 3) Site Name | Graneros Hill | |
| Northing: | | Easting: | | | |
| PALEONTOLOGI | CAL DATA: | | | | • |
|) Type of Locality | Invertebrate | | | | |
|) Formation/Horize | on/Geologic Age | Graneros Shale | A. muldoonense zone |) | Upper Cretaceous |
|) Description of Ge | | | | | |
| mall (5 meters) hills o | of non-calcareous gr | rey shales. Bentonite b | eds throughout these sma | all hills. Jarosite is | common. |
| pecimen | 30.2-10.10 | | | | |
| canthocerus muldoo | nense | | - | | |
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| | | | | | |
| | | | | | |
|) Paleoecologic Infe | erences | | | | |
| r) Paleoecologic Info | | ne of the Graneros Sh | ale. A. muldoonense is a l | biostratigraphic zo | ne fossil. |
| • | | ne of the Graneros Sh | ale. A. muldoonense is a l | biostratigraphic zo | ne fossil. |
| • | per Fossiliferous Zo | ne of the Graneros Sh | ale. A. muldoonense is a l | biostratigraphic zo | ne fossil. |
| hese hills are the Up | per Fossiliferous Zo | | ale. A. muldoonense is a l | biostratigraphic zo | ne fossil. |
| These hills are the Up | per Fossiliferous Zo | | ale. A. muldoonense is a l | biostratigraphic zo | ne fossil. |
| These hills are the Up | per Fossiliferous Zo | | ale. A. muldoonense is a l | biostratigraphic zo | ne fossil. |
| These hills are the Up O Research Potenti Further finds could ad | per Fossiliferous Zo al/Significance d to the list of taxa a | it this site. | ale. A. muldoonense is a l | biostratigraphic zo | ne fossil. |
| These hills are the Up O) Research Potenti Further finds could ad | per Fossiliferous Zo al/Significance d to the list of taxa a | it this site. | ale. A. muldoonense is a l | biostratigraphic zo | ne fossil. |
| These hills are the Up O Research Potenti Further finds could ad | per Fossiliferous Zo al/Significance d to the list of taxa a | it this site. | ale. A. muldoonense is a l | biostratigraphic zo | ne fossil. |
| These hills are the Up O) Research Potenti Further finds could ad | per Fossiliferous Zo al/Significance d to the list of taxa a | it this site. | iale. A. muldoonense is a l | biostratigraphic zo | ne fossil. |
| These hills are the Up | per Fossiliferous Zo al/Significance d to the list of taxa a ons for Further We ed at this time. | nt this site. | | biostratigraphic zo | ne fossil. |
| These hills are the Up | per Fossiliferous Zo al/Significance d to the list of taxa a ons for Further We ed at this time. | it this site. | | biostratigraphic zo | ne fossil. |
| These hills are the Up | per Fossiliferous Zo al/Significance d to the list of taxa a ons for Further We ed at this time. | nt this site. | | biostratigraphic zo | ne fossil. |
| These hills are the Up O) Research Potenti Further finds could ad O) Recommendation No further work require 11) Known Collection | per Fossiliferous Zo al/Significance d to the list of taxa a ons for Further We ed at this time. | nt this site. | | biostratigraphic zo | ne fossil. |
| These hills are the Up O) Research Potenti Further finds could ad O) Recommendation No further work require 11) Known Collection | per Fossiliferous Zo al/Significance d to the list of taxa a ons for Further We ed at this time. | nt this site. | | biostratigraphic zo | ne fossil. |
| These hills are the Up O) Research Potenti Further finds could ad O) Recommendation No further work require 11) Known Collection | per Fossiliferous Zo al/Significance d to the list of taxa a ons for Further W ed at this time. | ork Publications/Other | Forms | | ne fossil. |
| These hills are the Up O) Research Potenti Further finds could ad O) Recommendation No further work require 11) Known Collection | per Fossiliferous Zo al/Significance d to the list of taxa a ons for Further W ed at this time. | ork Publications/Other | Forms | biostratigraphic zo | ne fossil. |
| These hills are the Up | per Fossiliferous Zo al/Significance d to the list of taxa a ons for Further W ed at this time. | ork Publications/Other | Forms | | ne fossil. |
| These hills are the Up O) Research Potenti Further finds could ad O) Recommendation No further work require I1) Known Collection NA 12) Sensitivity II. ADMINISTRATI | per Fossiliferous Zo al/Significance d to the list of taxa a ons for Further We ed at this time. ons/Excavations/ | ork Publications/Other | Forms | | ne fossil. |
| These hills are the Up O) Research Potenti Further finds could ad O) Recommendation Of further work required I 1) Known Collection N/A | per Fossiliferous Zo al/Significance d to the list of taxa a ons for Further We ed at this time. ons/Excavations/ | ork Publications/Other | Forms | | |

|) Resource No. 09 | /28/97-01 | PALEON | TOLOGICAL COMPO | NENT FORM |
|------------------------|------------------------|---------------------------------------|----------------------------------|---|
| | | 2) TempNo: | 5 3) Site Name Tepe | e Bluff |
| Northing: | | Easting: | | |
| . PALEONTOLOG | ICAL DATA: | • | | |
|) Type of Locality | Invertebrate | | | |
|) Formation/Horiz | zon/Geologic Age | Pierre Sh | Tepee Zone | Upper Cretaceous |
| Description of G | eology and Topogra | aphy | | |
| hic cita ic a mostly o | rass covered bluff ru | nning east-west for we | l over 100 meters. This bluff co | ontains fossiliferous limestone that is |
| quivalent to the lime | stone that forms tepe | e structures but no dist | inctive tepee structures were o | bserved at this site. |
| Specimen | | , , | | |
| noceramus pertennis | | | - | |
| Baculites scotti | | | - | |
| | | | - | |
| | | | | |
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| | | | | |
| | | | | |
| 9) Research Poten | tiol/Significance | | | |
| | | iction, would produce a | fauna and taphonomy of the te | epee limestone. |
| Any exposure or this | Site, Suon as constit | , , , , , , , , , , , , , , , , , , , | , | |
| 10) Recommendat | ions for Further W | ork (| | , |
| No further work requ | ired at this time. Any | disturbance of this site | in the further should be monitor | ored. |
| · | | | | |
| | | | | |
| | 41 | /Publications /Oth | Forms | |
| | uons/Excavations | Publications/Other | LOURIS | |
| N/A | | | | |
| | | | | * |
| | | | | |
| | | | | |
| 12) Sensitivity | ○ Critical ○ sig | nificant | nt Oinsignificant Our | ıknown |
| II. ADMINISTRA | TIVE DATA: | | | |
| 15) Fossil Storage | N/A | | | |
| , | | | | Date 10/15/98 |
| 16) Recorder DL | N | | | Date 10/15/98 |
| | | | | |

| 1) Resource No. 09/28/97-02 | | PALEONTOLOGICAL COMPONENT FORM | | | |
|-----------------------------|-----------------------|--------------------------------|-------------------------------|-------------------------------------|-------------|
| | | 2) TempNo: | 6 3) Site Name | Tooth Frag. Site | |
| Northing: | | Easting: | : | | |
| I. PALEONTOLOG | ICAL DATA: | | | | |
| 4) Type of Locality | Vertebrate and Inve | rtebrate | | | |
| 5) Formation/Horiz | zon/Geologic Age | Pierre Sh | Rusty Zone | Upper Cre | taceous |
| 6) Description of G | eology and Topogra | phy | | | |
| Shales typical of the I | Rusty Zone(Both cone | e-in cone and ferrugi | nous concretions are pres | ent.) are exposed in a bank of a | drainage |
| ditch along an Army r | oad. | | | | 1 |
| Specimen | | <u> </u> | , | | |
| Mosasauridae | | | | | |
| Baculites sp. | | | | | |
| | | | | | |
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| | | • | | | |
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| | | | | | |
| | | | | | |
| 8) Paleoecologic In | | | • | | |
| Vertebrates are not o | ommon in the Rusty 2 | one of the Pierre Sh | ale. | | |
| | | | | • | |
| | | | | | |
| 9) Research Poten | tial/Significance | | | | |
| While this is a very | imited exposure and o | one isolated tooth is i | not of the highest significa | nce it is possible that future eros | ion ,or any |
| other type of disturba | ance might produce m | ore vertebrate mater | ial that could be of scientif | ic importance. | |
| | | | | | |
| - Arverter | | | | | |
| | ions for Further W | | | | |
| This site should be | examined periodically | to determine if any m | ore vertebrate material is p | oresent. | |
| | | | | | |
| | | | | | |
| 11) Known Collec | tions/Excavations/ | Publications/Othe | er Forms | • | |
| N/A | | | | | |
| | | | | | |
| | | | | | |
| | | | | _ | |
| 12) Sensitivity | ○ Critical | nificant 🔘 impor | tant insignificant | Ounknown | |
| II. ADMINISTRA | TIVE DATA: | | | | |
| 15) Fossil Storage | Ft. Carson | | | | |
| | | | A | Date 10/15/ | /98 |
| 16) Recorder DL | IA | | | Date | * |

|) Resource No. 10 | /04/97-01 | PALEONTO | LOGICAL COMPON | IENT FORM |
|--|--|---------------------------|-------------------------------|--------------------------------|
| | | 2) TempNo: 7 | 3) Site Name Melissa | 's Site |
| Northing: | | Easting: | - AMOVY | |
| PALEONTOLOG | ICAL DATA: | | | , |
| Type of Locality | Invertebrate, Vertebra | ate | | |
|) Formation/Horiz | zon/Geologic Age | Niobrara/ Smokey Hill | Lower Limestone Mb. | Cretaceous |
|) Description of G | eology and Topograp | hy | | |
| his site is a wooded | area on typical chalky i | imestone of the Lower Li | mestone Mb. of the Smokey | Hill Niobrara. |
| Specimen | | | | |
| noceramus subquad | ratus cren. | | | |
| seudoperna conges | ta | | | |
| sh scales | | | | |
| | | | | |
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| | | | | |
| | | | | |
|) Paleoecologic In: | ferences | | | |
| his site demonstrate | es normal warm water r | marine conditions. | | |
| | | | | |
| | | | | |
|) Research Potent | tial/Significance | | | |
| | | y and paleontology of Sco | ott and Cobban(1964) as to th | ne Lower Limestone unit of the |
| Smokey Hill Mb. of th | ne Niobrara Fm. | , | | |
| | | | | |
| | · · · · · · · · · · · · · · · · · · · | J. | | |
| • | ions for Further Wor | TK. | | |
| No further work requ | ired at this time. | | | |
| | | | | |
| | | | | |
| | | | | |
| 11) Known Collect | ions/Excavations/P | ublications/Other For | ms | |
| | ions/Excavations/P | ublications/Other For | ms | |
| | ions/Excavations/P | ublications/Other For | ms | |
| | ions/Excavations/P | ublications/Other For | ms | |
| N/A | | | | |
| N/A | ions/Excavations/P | | rms ○ insignificant ○ unkr | nown |
| N/A 12) Sensitivity | ◯ Critical ◯ signif | | | nown |
| N/A 12) Sensitivity (II. ADMINISTRAT | ◯ Critical ◯ signif | | | nown |
| N/A | ◯ Critical ◯ signif <u>FIVE DATA:</u> : Ft. Carson | | | nown Date 10/15/98 |

| Resource No. 10/05/97-01 | PALEON | ITOLOGICAL COMPON | ENT FOR | <u>RM</u> |
|---|---------------------------|-------------------------------------|---------------|------------------|
| | 2) TempNo: | 8 3) Site Name Oolite R | ock | |
| , Northing: | Easting: | : | | |
| PALEONTOLOGICAL DATA: | · | | | |
| Type of Locality Vertebrate | | | | |
| Formation/Horizon/Geologic Age | Pierre Sh | Base B. perplexus Z. | ι | Jpper Cretaceous |
| Description of Geology and Topogr | aphy | | | |
| his site is an important and unique depor chale. This site is a mass of iron oxide so deteichthyes teeth, bones, and scales are ase of this rock are deformed. | stained limestone oolitie | c rock about 1.5X 2 meters on the | exposed face | . Fragments of |
| pecimen | | _ | | |
| nchodus sp. | | | | |
| steichtyes teeth & bones | | _ | | |
| his site is a unique paleo-enviroment. Bo cientific significance.) Research Potential/Significance | | | | ū |
| The unique nature of this site make this of | one of the most importa | nt sites observed during this surve | v on Fort Car | son. |
| .0) Recommendations for Further W This site should be protected from all dist conducted as soon as possible. | /ork | | | |
| | | | | |
| 11) Known Collections/Excavations | /Publications/Other | Forms | | |
| 12) Sensitivity Critical sig | nificant O importa | ant Oinsignificant Ounkno | own | |
| I. ADMINISTRATIVE DATA: | | | | |
| 5) Fossil Storage Ft. Carson | | | | |
| | | | _ | |

| 1) Resource No. 10/11/97-01 | | <u>PALEONTO</u> | PALEONTOLOGICAL COMPONENT FORM | | | | |
|--|---|--------------------------------|--------------------------------|------------------|--|--|--|
| | | 2) TempNo: 9 | 3) Site Name Pierre Hills | , | | | |
| Northing: | | Easting: | | | | | |
| PALEONTOLOG | ICAL DATA: | | | | | | |
| Type of Locality | Invertebarte | | | | | | |
| Formation/Horiz | on/Geologic Age | Pierre Sh | | Upper Cretaceous | | | |
| Description of G | eology and Topogra | aphy | | | | | |
| | Zone of the Pierre S | | | | | | |
| pecimen | | | | | | | |
| aculites sp. | | , | | | | | |
| noceramus sp. | | | | f | | | |
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| Paleoecologic Int | erences | | | | | | |
| | | | | | | | |
| I/A | | | | | | | |
| N/A | | | | | | | |
| N/A | | | | | | | |
| | ial/Gimifaanaa | | | | | | |
|) Research Potent | | | at someon at this site | | | | |
|) Research Potent | | rell exposed but fossils are r | not common at this site. | | | | |
|) Research Potent | | rell exposed but fossils are r | not common at this site. | | | | |
|) Research Potent | | rell exposed but fossils are r | not common at this site. | | | | |
| o) Research Potent ow. Fissile shale of | | | not common at this site. | | | | |
|) Research Potent ow. Fissile shale of | the Pierre Shale is wo | | not common at this site. | | | | |
| o) Research Potent ow. Fissile shale of | the Pierre Shale is wo | | not common at this site. | | | | |
|) Research Potent ow. Fissile shale of 0) Recommendati | the Pierre Shale is wo | | not common at this site. | | | | |
|) Research Potent ow. Fissile shale of 0) Recommendati | the Pierre Shale is wonder on the Pierre Shale is wondered at this time. | 'ork | | | | | |
|) Research Potent ow. Fissile shale of 0) Recommendati to further work requ | the Pierre Shale is wonder on the Pierre Shale is wondered at this time. | | | | | | |
|) Research Potent ow. Fissile shale of 0) Recommendati lo further work requ 1) Known Collect | the Pierre Shale is wonder on the Pierre Shale is wondered at this time. | 'ork | | | | | |
|) Research Potent ow. Fissile shale of 0) Recommendati to further work requ | the Pierre Shale is wonder on the Pierre Shale is wondered at this time. | 'ork | | | | | |
|) Research Potent ow. Fissile shale of 0) Recommendati lo further work requ 1) Known Collect | the Pierre Shale is wonder on the Pierre Shale is wondered at this time. | 'ork | | | | | |
|) Research Potent ow. Fissile shale of 0) Recommendati lo further work requ 1) Known Collect | the Pierre Shale is wons for Further Wired at this time. | ork /Publications/Other For | ms | | | | |
|) Research Potent ow. Fissile shale of 0) Recommendati lo further work requ 1) Known Collect | the Pierre Shale is wonder one for Further Wired at this time. | ork /Publications/Other For | | | | | |
|) Research Potent ow. Fissile shale of 0) Recommendati lo further work requ 1) Known Collect 1/A | the Pierre Shale is woons for Further Wired at this time. | ork /Publications/Other For | ms | | | | |
| D) Research Potent .ow. Fissile shale of 10) Recommendati No further work requal 11) Known Collect N/A 12) Sensitivity (| the Pierre Shale is woons for Further Word at this time. ions/Excavations/ Critical Sign | ork /Publications/Other For | ms | | | | |
| P) Research Potent ow. Fissile shale of 10) Recommendati No further work requ 11) Known Collect | the Pierre Shale is woons for Further Word at this time. ions/Excavations/ Critical Sign | ork /Publications/Other For | ms • insignificant Ounknown | Date 10/16/98 | | | |

| 2) TempNo: 10 3) Site Name Smokey Hill | urce No. 10/11/97-02 | PALEONTOLOGICAL COMPONENT FORM | | | | |
|--|------------------------------------|--------------------------------|------------------------|---------------------|--------------|-------------------|
| PALEONTOLOGICAL DATA: th) Type of Locality Invertebrate th) Formation/Horizon/Geologic Age Niobrara Fm. Smokey Hill Mb. Upper Cretace th) Description of Geology and Topography Chalky limestone exposed in drainage ditches along Army road. Biostratigraphy places this location in the Lower Shale Unit of Specimen taploscapha grandis Pseudoperna congesta Pseudoperna congesta Pseudoperna conditions. Paleoecologic Inferences Narm normal marine conditions. Pseudoperna conditions Research Potential/Significance This limestone bed could be measured and placed in context as a marker bed in this unit. Pseudoperna congesta Pseudoperna conditions Research Potential/Significance This limestone bed could be measured and placed in context as a marker bed in this unit. No further work required at this time. | | 2) TempNo: | 10 3) Site | Name Smokey I | Hill | |
| Type of Locality Invertebrate Formation/Horizon/Geologic Age Niobrara Fm. Smokey Hill Mb. Upper Cretac Description of Geology and Topography hally limestone exposed in drainage ditches along Army road. Biostratigraphy places this location in the Lower Shale Unit of mokey Hills Mb. Of the Niobrara Fm., Scott & Cobban (1964). Paclored Peclimen Aploscapha grandis seudoperna congesta Paleoecologic Inferences Arm normal marine conditions. Research Potential/Significance his limestone bed could be measured and placed in context as a marker bed in this unit. Recommendations for Purther Work of urther work required at this time. I) Known Collections/Excavations/Publications/Other Forms I/A Paleoecologic Inferences In Known Collections/Excavations/Publications/Other Forms I/A On Responding Type Interest Programment Prog | Northing: | Easting: | | 1 | | |
| Formation/Horizon/Geologic Age Niobrara Fm. Smokey Hill Mb. Upper Cretac Description of Geology and Topography hally limestone exposed in drainage ditches along Army road. Biostratigraphy places this location in the Lower Shale Unit of Mokey Hills Mb. Of the Niobrara Fm., Scott & Cobban (1964). pecimen aploscapha grandis seudoperna congesta Paleoecologic Inferences / Arm normal marine conditions. Research Potential/Significance Pote | EONTOLOGICAL DATA: | | | | | |
| Description of Geology and Topography nalky limestone exposed in drainage ditches along Army road. Biostratigraphy places this location in the Lower Shale Unit of mokey Hills Mb. Of the Niobrara Fm., Scott & Cobban (1964). pecimen aploscapha grandis seudoperna congesta Paleoecologic Inferences (arm normal marine conditions. Research Potential/Significance his limestone bed could be measured and placed in context as a marker bed in this unit. Procommendations for Further Work Of the Work required at this time. Nown Collections/Excavations/Publications/Other Forms (A | of Locality Invertebrate | | | | | |
| halky limestone exposed in drainage ditches along Army road. Biostratigraphy places this location in the Lower Shale Unit of mokey Hills Mb. Of the Niobrara Fm., Scott & Cobban (1964). pecimen aploscapha grandis seudoperna congesta Paleoecologic Inferences | nation/Horizon/Geologic Age | Niobrara Fm. | Smokey Hill M | b. | U | pper Cretaceous |
| pecimen aploscapha grandis seudoperna congesta Paleoecologic Inferences /arm normal marine conditions. Research Potential/Significance his limestone bed could be measured and placed in context as a marker bed in this unit. O) Recommendations for Further Work o further work required at this time. Nown Collections/Excavations/Publications/Other Forms A O Sensitivity O Critical O Significant O Insignificant O Unknown | ription of Geology and Topograp | hy | | | | |
| pecimen aploscapha grandis seudoperna congesta Paleoecologic Inferences /arm normal marine conditions. Research Potential/Significance his limestone bed could be measured and placed in context as a marker bed in this unit. O) Recommendations for Further Work of urther work required at this time. 1) Known Collections/Excavations/Publications/Other Forms //A | mestone exposed in drainage ditche | s along Army road. | . Biostratigraphy plac | ces this location i | in the Lower | Shale Unit of the |
| aploscapha grandis seudoperna congesta Paleoecologic Inferences Varm normal marine conditions. Research Potential/Significance his limestone bed could be measured and placed in context as a marker bed in this unit. Recommendations for Further Work for further work required at this time. Nown Collections/Excavations/Publications/Other Forms Ka | | (a cobban (150+) | • | • | | |
| Paleoecologic Inferences Jarm normal marine conditions. Research Potential/Significance his limestone bed could be measured and placed in context as a marker bed in this unit. Recommendations for Further Work for further work required at this time. Recommendations for Further Work for further work required at this time. Recommendations for Further Work for further work required at this time. Recommendations for Further Work for further work required at this time. | | | · · | | | |
| Paleoecologic Inferences /arm normal marine conditions. Descarch Potential/Significance his limestone bed could be measured and placed in context as a marker bed in this unit. Procedure of the context as a marker bed in this unit. Descarch Potential/Significance This limestone bed could be measured and placed in context as a marker bed in this unit. Descarch Potential/Significance This limestone bed could be measured and placed in context as a marker bed in this unit. Descarch Potential/Significance This limestone bed could be measured and placed in context as a marker bed in this unit. Descarch Potential/Significance This limestone bed could be measured and placed in context as a marker bed in this unit. | | | | | | |
| Varm normal marine conditions.) Research Potential/Significance This limestone bed could be measured and placed in context as a marker bed in this unit. (1) Recommendations for Further Work (2) It is time. (3) Known Collections/Excavations/Publications/Other Forms (4) A (5) Sensitivity (1) Critical (1) significant (2) important (1) insignificant (1) unknown | perna congesta | | | | | |
| Arm normal marine conditions. Arm normal marine conditions. Research Potential/Significance his limestone bed could be measured and placed in context as a marker bed in this unit. Recommendations for Further Work of further work required at this time. Note that the context is a marker bed in this unit. Note that the context is a marker bed in this unit. Note that the context is a marker bed in this unit. Note that the context is a marker bed in this unit. Note that the context is a marker bed in this unit. Note that the context is a marker bed in this unit. Note that the context is a marker bed in this unit. Note that the context is a marker bed in this unit. Note that the context is a marker bed in this unit. Note that the context is a marker bed in this unit. Note that the context is a marker bed in this unit. | | | | | | |
| Arm normal marine conditions. Research Potential/Significance his limestone bed could be measured and placed in context as a marker bed in this unit. Recommendations for Further Work of further work required at this time. Rown Collections/Excavations/Publications/Other Forms Known Collections/Excavations/Publications/Other Forms Kanon Collections/Excavations/Publications/Other Forms Known Collections/Excavations/Publications/Other Forms | | | | | | |
| Arm normal marine conditions. Arm normal marine conditions. Research Potential/Significance his limestone bed could be measured and placed in context as a marker bed in this unit. Recommendations for Further Work of further work required at this time. Note that the context is a marker bed in this unit. Note that the context is a marker bed in this unit. Note that the context is a marker bed in this unit. Note that the context is a marker bed in this unit. Note that the context is a marker bed in this unit. Note that the context is a marker bed in this unit. Note that the context is a marker bed in this unit. Note that the context is a marker bed in this unit. Note that the context is a marker bed in this unit. Note that the context is a marker bed in this unit. Note that the context is a marker bed in this unit. | | | | | | |
| Arm normal marine conditions. Research Potential/Significance his limestone bed could be measured and placed in context as a marker bed in this unit. Recommendations for Further Work of further work required at this time. Rown Collections/Excavations/Publications/Other Forms Known Collections/Excavations/Publications/Other Forms Kanon Collections/Excavations/Publications/Other Forms Known Collections/Excavations/Publications/Other Forms | | | | | | |
| Research Potential/Significance is limestone bed could be measured and placed in context as a marker bed in this unit. O) Recommendations for Further Work of further work required at this time. 1) Known Collections/Excavations/Publications/Other Forms //A | | | | | | |
| Arm normal marine conditions. Research Potential/Significance his limestone bed could be measured and placed in context as a marker bed in this unit. Recommendations for Further Work of further work required at this time. Rown Collections/Excavations/Publications/Other Forms Known Collections/Excavations/Publications/Other Forms Kanon Collections/Excavations/Publications/Other Forms Known Collections/Excavations/Publications/Other Forms | | | • | | | |
| Research Potential/Significance is limestone bed could be measured and placed in context as a marker bed in this unit. O) Recommendations for Further Work of further work required at this time. 1) Known Collections/Excavations/Publications/Other Forms //A | necologic Inferences | | | | | |
| Research Potential/Significance his limestone bed could be measured and placed in context as a marker bed in this unit. O) Recommendations for Further Work for further work required at this time. 1) Known Collections/Excavations/Publications/Other Forms MA 12) Sensitivity | | | | | | |
| This limestone bed could be measured and placed in context as a marker bed in this unit. O) Recommendations for Further Work Io further work required at this time. I) Known Collections/Excavations/Publications/Other Forms I/A 12) Sensitivity | offiai marine conditions. | | | | | |
| his limestone bed could be measured and placed in context as a marker bed in this unit. O) Recommendations for Further Work Io further work required at this time. 1) Known Collections/Excavations/Publications/Other Forms I/A 12) Sensitivity Critical Significant Important Insignificant Unknown | | | | | | |
| This limestone bed could be measured and placed in context as a marker bed in this unit. O) Recommendations for Further Work It further work required at this time. 1) Known Collections/Excavations/Publications/Other Forms I/A 12) Sensitivity Critical significant insignificant unknown | | | | | | |
| This limestone bed could be measured and placed in context as a marker bed in this unit. O) Recommendations for Further Work It further work required at this time. 1) Known Collections/Excavations/Publications/Other Forms I/A 12) Sensitivity Critical significant insignificant unknown | arch Potential/Significance | | | | | |
| 0) Recommendations for Further Work lo further work required at this time. 1) Known Collections/Excavations/Publications/Other Forms 1/A 12) Sensitivity | | placed in context as | s a marker bed in thi | s unit. | | |
| Io further work required at this time. 1) Known Collections/Excavations/Publications/Other Forms 1/A 12) Sensitivity Critical significant important insignificant unknown | • | | | | | |
| 1) Known Collections/Excavations/Publications/Other Forms 1/A 12) Sensitivity Critical significant important insignificant unknown | | | | | | |
| 1) Known Collections/Excavations/Publications/Other Forms 1/A 12) Sensitivity Critical significant important insignificant unknown | | | | | | |
| 1) Known Collections/Excavations/Publications/Other Forms /A 12) Sensitivity Critical significant important insignificant unknown | commendations for Further Wor | k | | | | |
| 1/A 12) Sensitivity ◯ Critical ◯ significant ◉ important ◯ insignificant ◯ unknown | er work required at this time. | | | | | |
| 1/A 12) Sensitivity ○ Critical ○ significant ● important ○ insignificant ○ unknown | | | | | | |
| 1/A 12) Sensitivity ◯ Critical ◯ significant ◉ important ◯ insignificant ◯ unknown | | | | | | |
| 1/A 12) Sensitivity ◯ Critical ◯ significant ◉ important ◯ insignificant ◯ unknown | | | | | | |
| 12) Sensitivity ◯ Critical ◯ significant ● important ◯ insignificant ◯ unknown | own Collections/Excavations/Pu | ıblications/Othe | r Forms | | | |
| 12) Bonbidatily O Simon O Ligaminani O mapanani | | | | | | |
| 12) Bonbidatily O Simon O Ligaminani O mapanani | | | | | | |
| 12) Bonbidatily O Simon O Ligaminani O mapanani | | | | | | |
| 12) bonblarity & climate & company | | | | _ | | |
| I. ADMINISTRATIVE DATA: | nsitivity (Critical (signific | cant 💿 import | ant O insignifica | ant Ounknov | wn | |
| | MINISTRATIVE DATA: | | • | | | |
| .5) Fossil Storage N/A | | | | Accessory | | |
| | or secrete | | | | | |
| 6) Recorder DLN Date 10/16/98 | corder DLN | | | | Date | 10/16/98 |

| | 11/97-03 | <u>PALEO</u> | NTOLOGICAL C | OMPONENT | · FORM |
|--|---|--------------------------|--------------------------|---|----------------|
| | | 2) TempNo: | 11 3) Site Na | me Eastern Shale | e Hills |
| Northing: | | Easting: | | U W 1 R P P P P P P P P P P P P P P P P P P | |
| PALEONTOLOG | CAL DATA: | | | | |
| Type of Locality | Invertebrate | | | | |
| i) Formation/Horiz | on/Geologic Ag | e Niobrara Fm. | Smokey Hills Mb. | | Cretaceous |
| 6) Description of G | cology and Topo | graphy | | | |
| | | ark shale. That shale is | fissile and gypsiferous. | | |
| Specimen | | | | | 1447 |
| seudoperna congest | a | | <u> </u> | | |
| noceramus sp. | | | | | |
| • | | | | | |
| 0 | | | | | |
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| | | • | | | |
| | • | | | | |
| | | | | | |
|) Paleoecologic Inf | erences | | 4 | | |
| | ocermids lived or | the benthic surface. O | vster colonies form on t | hese large shells. | |
| Verv large plate like ir | loocitiido iitoa oi | | | | |
| Very large plate like ir | 00001111100 11100 01 | | | | |
| Very large plate like ir | goodiiildo livou ol | | | | |
| ery large plate like ir | | | | | |
| | | · | | | |
| 9) Research Potent | | · | | | |
| 9) Research Potent | | · | | | |
| 9) Research Potent | | · | | | |
| 9) Research Potent Low | ial/Significance | · • | | | |
| 9) Research Potent Low 10) Recommendati | ial/Significance | · • | | | |
| 9) Research Potent Low 10) Recommendati | ial/Significance | · • | | | |
| 9) Research Potent Low 10) Recommendati | ial/Significance | · • | | | |
| 9) Research Potent Low 10) Recommendati | ial/Significance | · • | | | |
| P) Research Potent Low 10) Recommendati No further work requi | ial/Significance | · Work | | | |
| 9) Research Potent Low 10) Recommendati No further work requi | ial/Significance | · • | | | |
| P) Research Potent Low 10) Recommendati No further work requi | ial/Significance | · Work | | | |
| P) Research Potent Low 10) Recommendati No further work requi | ial/Significance | · Work | | | |
| P) Research Potent Low 10) Recommendati No further work requi | ial/Significance | · Work | | | |
| P) Research Potent Low 10) Recommendati No further work requi | ial/Significance ons for Further red at this time. | · Work | er Forms | | |
| P) Research Potent Low 10) Recommendati No further work requi | ial/Significance ons for Further red at this time. ions/Excavation | Work | er Forms | | |
| 9) Research Potent Low 10) Recommendati No further work requi 11) Known Collect N/A 12) Sensitivity (II. ADMINISTRAT | ial/Significance ons for Further red at this time. ions/Excavation Critical | Work | er Forms | | |
| 9) Research Potent Low 10) Recommendati No further work requi | ial/Significance ons for Further red at this time. ions/Excavation Critical N/A | Work | er Forms | Ounknown | Date 10/16/98 |

|) Resource No. 10 | /18/97-01 | PALEO | NTOLOGIC: | AL COMPON | ENT FOR | <u>RM</u> |
|---|--------------------|-----------------------|------------------|------------------|----------------|-------------------|
| | | 2) TempNo: | 12 . 3) Si | te Name Randy I | Korgel's Site | |
| Northing: | | Easting: | | | | |
| . PALEONTOLOG | ICAL DATA: | | | | | |
|) Type of Locality | Invertebrate | | | | | |
|) Formation/Horiz | zon/Geologic Age | Greenhorn Ls | Middle Brid | ge Creek | l | Jpper C retaceous |
|) Description of G | eology and Topogra | aphy | | | | |
| | | te.Exposed as a ridge | forming erosiona | al surface. | | |
| Specimen | | | | | | |
| Mytiloides columbian | us | , | Γ . | | | |
| Puebloites greenhorn | | | _ | | • | |
| Pseudoperna sp. | | | <u> </u> | | | |
| | | | | | | |
| | | · | | | | |
| n = 1 | C | | | | | |
| Paleoecologic Int Warm shallow marine | | is zone evergeneted | | | | |
| y diffi Stallow Harms | | ,, | | | | |
| 9) Research Potent | tial/Significance | | | | | |
| • | | aphic marker. Further | study should inc | rease the number | of taxa from t | nis site. |
| | | | | | | |
| 10) Recommendat | ions for Further W | ork | | | , | |
| No further work requ | ired at this time. | | | | | |
| | | | | | | |
| 11) Known Collect | ions/Excavations, | /Publications/Othe | r Forms | | | |
| N/A | | | | | | |
| | | | | | | |
| | | nificant | tant () insign | ificant Ounkr | nown | |
| 12) Sensitivity (| ○ Critical ○ sig | | | | | |
| , | - | , mount | ÷ | | | |
| 12) Sensitivity (II. ADMINISTRAT | TIVE DATA: | | | | | |
| II. ADMINISTRAT | Fort Carson | , | | | Date | 8/29/98 |

| 1) Resource No. 10 | 0/18/97-02 | PALE | ONTOLOGICAL CO | MPONENT FOR | <u>.m</u> |
|----------------------|--|--------------------|---------------------------------|-----------------------|---------------------|
| | | 2) TempNo: | 13 3) Site Name | Randy Korgel's Mamr | noth |
| Northing: | | Easting: | | | |
| I. PALEONTOLOG | GICAL DATA: | | | | |
| 4) Type of Locality | Vertebrate | | | | |
| 5) Formation/Hori | zon/Geologic Age | unknown | unknown | P | leistocene |
| 6) Description of G | eology and Topogra | aphy | | | |
| tusks.(pers. com. R. | roige). The location | | , | | |
| 9) Research Poten | site can be expected to | o produce vertebra | te fossils. | | |
| • | cions for Further W surveyed on a regular | | posure of vertebrate fossils ca | aused by disturbances | both artificial and |
| N/A | | | | Ounknown | |
| 16) Recorder DL | | | | Date | 10/20/98 |
| 10) Recorder | | | | 1 | l i |

| 1) Resource No. 10/19/97-01 | | PALEONTOLOGICAL COMPONENT FORM | | | |
|-----------------------------|---------------------|---------------------------------------|----------------------------|---|------------------|
| | | 2) TempNo: 1 | 4 3) Site Name | Road Cut to OP#1 | |
| Northing: | | Easting: | | | |
| I. PALEONTOLOG | ICAL DATA: | | | | |
| 4) Type of Locality | Invertebrate | | | | |
| 5) Formation/Horiz | on/Geologic Age | Pierre Sh | B. scotti zone | (| Jpper Cretaceous |
| 6) Description of G | | aphy | | | |
| This site is a road cut | exposure on the sou | | oad to OP#1. Light tan sha | ales with cone-in con | e structures are |
| common. B. scotti is o | common. | | | | |
| Specimen | | , | | | |
| Baculites scotti | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | · | | | |
| | | | | | |
| | | | | | |
| 9) Research Potent | ial/Significance | | | | |
| • | • | ne Pierre Shale of Gilber | t (1897) and Scott & Cob | ban (1975) | |
| | | | | | |
| | | | | | |
| 10) Recommendati | ons for Further W | ork | | | |
| No future work requir | ed at this time. | | | *************************************** | |
| | | | | | |
| | | | | | |
| 11) Known Collect | ions/Excavations/ | Publications/Other F | Forms | | |
| N/A | , , | · · · · · · · · · · · · · · · · · · · | | | |
| | | • | | | |
| | | | • | | |
| İ | | | _ | _ | |
| 12) Sensitivity (| ◯ Critical ◯ sigr | nificant | insignificant | unknown | |
| II. ADMINISTRAT | IVE DATA: | | | | |
| 15) Fossil Storage | N/A | | | West, | , |
| | | | | Date | 10/9/98 |
| 16) Recorder DLN | 1 | | | Date | . 5.5.55 |

|) Resource No. 10 | /19/97-02 | PALE | ONTOLOGICAL COMP | ONENT FORM |
|--|-------------------------|--------------------|-------------------------------------|---|
| | | 2) TempNo | : 15 3) Site Name OF | P#1 |
| Northing: | | Easting | ļ; | |
| PALEONTOLOG | ICAL DATA: | | | • |
| Type of Locality | Invertebrate | | | |
| Formation/Horiz | on/Geologic Age | Pierre Sh | B. scotti zone | Upper Cretaceous |
| Description of G | eology and Topogra | aphy | | |
| his site is a artificial | cut near OP#1 and e | exposures near thi | s cut. Grey-green non-fissile shall | es and iron concretions make up the bed |
| ock at this site. The I obban, 1975). | ithology of this site w | ould suggest that | OP#1 is in the lowest part of the | Tepee Zone(Gilbert, 1897 and Scott and |
| pecimen | | | | |
| aculite scotti | | | | |
| idymoceras archiac | ianum | | | |
| ivalves | | | | |
| • | | • | | |
| | phy and bio-stratigra | | e well constrained. | |
| 0) Recommendat: lo future work requi | ions for Further W | ork | | |
| vo ruture work requi | ed at this time | | | |
| 11) Known Collect | ions/Excavations, | Publications/O | ther Forms | |
| N/A | | | | |
| 12) Sensitivity (| Critical Sign | nificant | portant O insignificant O | unknown |
| II. ADMINISTRAT | IVE DATA: | | | |
| 15) Fossil Storage | Ft. Carson | | | <i>:</i> |
| 16) Recorder DLN | J | | | Date 10/11/98 |
| tol kecolaet pri | • | | | |

| 1) Resource No. 10 | /19/97-03 | PALEO | NTOLOGICAL C | COMPONENT FO | <u>RM</u> |
|--|---|---|----------------------------|--------------------------|--------------------|
| | | 2) TempNo: | 16 3) Site Nar | me Little Fountain Creek | |
| Northing: | | Easting: | | | |
| I. PALEONTOLOG | ICAL DATA: | | | | |
| 4) Type of Locality | Invertebrate | | | | |
| 5) Formation/Horiz | zon/Geologic Age | Pierre Sh | Rusty Zone | | Upper Cretaceous |
| 6) Description of G | eology and Topogra | aphy | | | |
| Deep erosion cut Arro Olive-grey calcareous | oyo in the Pierre Shale and limonite fossilife | e from the tepee zone erous concretions. | through the Rusty Zon | ne. The Shale dips 8-10 | degrees to the NE. |
| Specimen | | J. | | | |
| Baculite scotti | | | | | |
| Menuites oralensis | | | | | |
| | | | | | |
| | | | | | |
| | | , | | | |
| | | | | • | |
| | | | | | |
| Dark carboniferous s | hales accumulated o | n sea floor. | | | |
| 9) Research Potent | | | | | |
| This site is within the | Baculites scotti zone | e of Cobban. Potentia | al for recovery of good in | nvertebrate specimens. | |
| 10) Recommendati | ions for Further W | ork | | | |
| No further work requ | ired at this time. | | | | |
| 11) Known Collect | ions/Excavations/ | Publications/Othe | r Forms | | |
| | - - | | | Ounknown | |
| 12) Dollaring | ◯ Critical ◯ sigr | nificant | ant insignificant | ∪ unknown | |
| II. ADMINISTRAT | IVE DATA: | | | | |
| 15) Fossil Storage | Fort Carson | | | | |
| 16) Recorder Dou | ıglas L. Nelson | | - | Date | 6/28/98 |
| 10) Nocoluci | .g = | | | 1 | ţ |

| , |)/23/97-01 | <u>PALEOÌ</u> | NTOLOGICAL COMP | ONENT FORM |
|---|--|--------------------------|------------------------------|--------------------------|
| | | 2) TempNo: | 17 3) Site Name Arr | royos at Little Fountain |
| Northing: | | Easting: | | |
| PALEONTOLOG | ICAL DATA: | | | |
| Type of Locality | Invertebrate | | | |
|) Formation/Hori | zon/Geologic Age | Pierre Sh | B. scotti zone | Upper Cretaceous |
|) Description of G | eology and Topogra | phy | | |
| See site 10/19/97 #2 | 2) The lithology of this | site places it 6-7 met | ers below the Rusty Zone/ Te | pee Zone contact. |
| Specimen | | | | |
| Baculites scotti | | | | |
| Didymoceras binodo | sum | | | |
| | | | | |
| | | | | |
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| | | | | |
| | | | | |
| | | | | |
|) Paleoecologic In | ferences | | | |
| I/A | lerences | | | |
| W/A | | | | |
| | | | | |
| | | | | |
| | tial/Significance | | | |
|) Research Poten | uai/sigimicance | | | |
| | oduce more taxa at thi | s contact of the Rust | y/ Tepee Zones. | |
| | | s contact of the Rust | y/ Tepee Zones. | |
| | | s contact of the Rust | y/ Tepee Zones. | |
| Future work could pi | roduce more taxa at thi | | y/ Tepee Zones. | |
| Future work could pi | oduce more taxa at thi | | y/ Tepee Zones. | |
| Future work could pi | oduce more taxa at thi | | y/ Tepee Zones. | |
| Future work could pi | oduce more taxa at thi | | y/ Tepee Zones. | |
| Future work could pi | oduce more taxa at thi | | y/ Tepee Zones. | |
| Future work could pi 10) Recommendat No future work requ | roduce more taxa at thi | rk | | |
| Future work could pi 10) Recommendat No future work requi | oduce more taxa at thi | rk | | |
| Future work could pi 10) Recommendat No future work requi | roduce more taxa at thi | rk | | |
| Future work could pi 10) Recommendat No future work requi | roduce more taxa at thi | rk | | |
| Future work could pi 10) Recommendat No future work requi | roduce more taxa at thi | rk | | |
| Future work could pi 10) Recommendat No future work requi | ions for Further Wo | rk | Forms | unknown |
| Future work could pi 10) Recommendat No future work requi 11) Known Collect N/A | ions for Further Working at this time. tions/Excavations/I | rk Publications/Other | Forms | unknown |
| 10) Recommendat No future work requi 11) Known Collec N/A | coduce more taxa at this tions for Further Working at this time. tions/Excavations/Further Critical significations | rk Publications/Other | Forms | unknown |
| Future work could put the put | cions for Further World at this time. tions/Excavations/Further Critical significations Signifi | rk Publications/Other | Forms | unknown |

| 1) Resource No. 10/ | 23/97-02 | PALEC | ONTOL | OGICAL C | OMPONENT | ' FOR | <u>M</u> |
|-----------------------|--------------------|-----------------------|--------------|------------------|--------------------|----------|-----------------------|
| | | 2) TempNo: | 18 | 3) Site Nan | ne Little Fountain | Creek A | Arroyos |
| Northing: | ! | Easting: | pro securio. | | | | |
| I. PALEONTOLOG | CAL DATA: | | | | | | |
| 4) Type of Locality | Invertebrates | | | | | | |
| 5) Formation/Horiz | on/Geologic Age | Pierre Sh | Ru | ısty Zone | | Ul | pper Cretaceous |
| 6) Description of G | cology and Topogra | aphy | | | | | |
| Erosional Arroyos cut | | | ese arroyo | s expose the Pi | erre Shale in the | Tepee Zo | one (top) to the Rust |
| Zone. | | | | | | | |
| Specimen | | | ř | | | | |
| Ostreidae | | | | | | | |
| Menuites oralensis | | | | | | | |
| Baculites scotti | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| 9) Research Potent | ial/Significance | | | | | | |
| Rich macro invertebra | | te bio-stratigraphy.7 | Faphonom | ic studies would | l be possible. | | |
| - | | | | | | | |
| 10) Recommendati | ons for Further W | 'ork | | | | | |
| No further work requi | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| 11) Known Collect | ons/Excavations | /Publications/Oth | ner Form | s | | | |
| No further work requi | | Tablication of a | | ~ | | | |
| To tall the training | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| 12) Sensitivity (| Critical () sign | nificant | ortant (| insignificant | Ounknown | | |
| II. ADMINISTRAT | IVE DATA: | | | | | | |
| 15) Fossil Storage | | | | | | | |
| | | | | | | | 0/40/00 |
| 16) Recorder DLN | | | | | [| Date | 9/19/98 |

| Type of Locality Invertebrate | Resource No. 11/01/97-01 | PALEON | TOLOGICAL COMPO | NENT FORM |
|--|--|---|-------------------------------------|--|
| PALEONTOLOGICAL DATA: Type of Locality [Invertebrate] Formation/Horizon/Geologic Age Niobrara Fm. Fort Hayes Mb. Cretaceous Description of Geology and Topography ne contact of the Juana Lopez and the Fort Hayes is covered by rubble derived from weathered limestone from the Fort Hayes. The st, in situ, fossils were recovered from the Fr. Hayes ~ 3 meters above the contact. The limestone rubble has trace fossils, nodules ronoline after print, marchisite, and dyster shell fragments. The Fort Hayes Mb., at this site, is equivalent to the Ft. Hayes at Pueblo, olorado(Scott & Cobban, 1954) pecimen operamus erectus Paleoecologic Inferences he Fort Hayes Mb. is a warm water benthos. Research Potential/Significance urther study could refine the biostratigraphy of this site. Research Potential/Significance urther study could refine the biostratigraphy of this site. Recommendations for Purther Work xeavation and removal of the rubble at this site could result in a better constrained biostratigraphy of the contact of the Juana Lopez of Fort Hayes at this significant location. Recommendations for Purther Work Significant Si | | 2) TempNo: | 19 3) Site Name Ft. Ha | yes at J.L.'s Sharks |
| Type of Locality Invertebrate | Northing: | Easting: | | |
| Formation/Horizon/Geologic Age | PALEONTOLOGICAL DATA: | | | |
| Description of Goology and Topography be contact of the Juana Lopez and the Fort Hayes is covered by rubble derived from weathered limestone from the Fort Hayes. The st, in situ, fossils were recovered from the Ft. Hayes ~ 3 meters above the contact. The limestone rubble has trace fossils, nodules ronolite after pyric, marchiste, and cyster shell fragments. The Fort Hayes Mb., at this site, is equivalent to the Ft. Hayes at Pueblo, olorado(Scott & Cobban, 1964) pecimen oceramus erectus Palaececologic Inferences he Fort Hayes Mb. is a warm water benthos. Research Potential/Significance urther study could refine the biostratigraphy of this site. Research Potential/Significance urther study could refine the biostratigraphy of this site. Recommendations for Further Work xeavation and removal of the rubble at this site could result in a better constrained biostratigraphy of the contact of the Juana Lopez and Fort Hayes at this significant location. Known Collections/Excavations/Publications/Other Forms Known Collections/Excavations/Publications/Other Forms Known Collections/ Excavations Publications/Other Forms Known Collections Collections (Scavations) (Significant Collections) (Signi | Type of Locality Invertebrate | | | |
| ne contact of the Juana Lopez and the Fort Hayes is covered by rubble derived from weathered limestone from the Fort Hayes. The st, in situ, fossils were recovered from the Ft. Hayes = 3 meters above the contact. The limestone rubble has trace fossils, notules on nonlea fater pyrite, marchistics, and oyster shell fragments. The Fort Hayes Mb., at this site, is equivalent to the Ft. Hayes at Pueblo, alorado(Scott & Cobban, 1964) pecimen oceramus erectus Paleoecologic Inferences he Fort Hayes Mb. is a warm water benthos. Research Potential/Significance urther study could refine the biostratigraphy of this site. Research Potential/Significance urther study could refine the biostratigraphy of this site. Research Potential/Significance urther study could removal of the rubble at this site could result in a better constrained biostratigraphy of the contact of the Juana Lopez and Fort Hayes at this significant location. Recommendations for Purther Work Recommendations for Purther Work Recommendations for Purther Work Recommendations for Further Work Recommendations for Fu | Formation/Horizon/Geologic Age | Niobrara Fm. | Fort Hayes Mb. | Cretaceous |
| ne contact of the Juana Lopez and the Fort Hayes is covered by rubble derived from weathered limestone from the Fort Hayes. The st, in situ, fossils were recovered from the Ft. Hayes = 3 meters above the contact. The limestone rubble has trace fossils, notules on nonlea fater pyrite, marchistics, and oyster shell fragments. The Fort Hayes Mb., at this site, is equivalent to the Ft. Hayes at Pueblo, alorado(Scott & Cobban, 1964) pecimen oceramus erectus Paleoecologic Inferences he Fort Hayes Mb. is a warm water benthos. Research Potential/Significance urther study could refine the biostratigraphy of this site. Research Potential/Significance urther study could refine the biostratigraphy of this site. Research Potential/Significance urther study could removal of the rubble at this site could result in a better constrained biostratigraphy of the contact of the Juana Lopez and Fort Hayes at this significant location. Recommendations for Purther Work Recommendations for Purther Work Recommendations for Purther Work Recommendations for Further Work Recommendations for Fu | Description of Geology and Topogra | aphy | | |
| Deleoecologic Inferences he Fort Hayes Mb. is a warm water benthos. Research Potential/Significance urther study could refine the biostratigraphy of this site. Research Potential/Significance urther study could refine the biostratigraphy of this site. Research Potential/Significance urther study could refine the biostratigraphy of this site. Research Potential/Significance urther study could refine the biostratigraphy of this site. Research Potential/Significance urther study could refine the biostratigraphy of the contact of the Juana Lopez nd Fort Hayes at this significant location. Research Potential/Significant location in a better constrained biostratigraphy of the contact of the Juana Lopez nd Fort Hayes at this significant location. Research Potential/Significant location in a better constrained biostratigraphy of the contact of the Juana Lopez nd Fort Hayes at this significant location. Research Potential/Significant location in a better constrained biostratigraphy of the contact of the Juana Lopez nd Fort Hayes at this significant location. Research Potential/Significant location in a better constrained biostratigraphy of the contact of the Juana Lopez nd Fort Hayes at this significant location. Research Potential/Significant location in a better constrained biostratigraphy of the contact of the Juana Lopez nd Fort Hayes at this significant location. Research Potential/Significant location in a better constrained biostratigraphy of the contact of the Juana Lopez nd Fort Hayes at this significant location in a better constrained biostratigraphy of the contact of the Juana Lopez nd Fort Hayes at this significant location in a better constrained biostratigraphy of the contact of the Juana Lopez nd Fort Hayes at this significant location in a better constrained biostratigraphy of the contact of the Juana Lopez nd Fort Hayes at this significant location in a better constrained biostratigraphy of the contact of the Juana Lopez nd Fort Hayes at this significant location in a better constrained bios | rst in situ. fossils were recovered from th | e Ft. Haves ~ 3 meters | s above the contact. The limestor | ne rubble has trace fossils, nodules o |
| Paleoecologic Inferences he Fort Hayes Mb. is a warm water benthos.) Rescarch Potential/Significance urther study could refine the biostratigraphy of this site. O) Recommendations for Further Work excavation and removal of the rubble at this site could result in a better constrained biostratigraphy of the contact of the Juana Lopez nd Fort Hayes at this significant location. 1) Known Collections/Excavations/Publications/Other Forms 1//A 12) Sensitivity | pecimen | | _ | |
| Descarch Potential/Significance Uniter study could refine the biostratigraphy of this site. O) Recommendations for Further Work Excavation and removal of the rubble at this site could result in a better constrained biostratigraphy of the contact of the Juana Lopez and Fort Hayes at this significant location. I) Known Collections/Excavations/Publications/Other Forms I/A 12) Sensitivity | noceramus erectus | | - . | |
| Descarch Potential/Significance Uniter study could refine the biostratigraphy of this site. O) Recommendations for Further Work Excavation and removal of the rubble at this site could result in a better constrained biostratigraphy of the contact of the Juana Lopez and Fort Hayes at this significant location. I) Known Collections/Excavations/Publications/Other Forms I/A 12) Sensitivity | | | | |
| Descarch Potential/Significance Uniter study could refine the biostratigraphy of this site. O) Recommendations for Further Work Excavation and removal of the rubble at this site could result in a better constrained biostratigraphy of the contact of the Juana Lopez and Fort Hayes at this significant location. I) Known Collections/Excavations/Publications/Other Forms I/A 12) Sensitivity | | | | |
| Rescarch Potential/Significance urther study could refine the biostratigraphy of this site. O) Recommendations for Further Work xcavation and removal of the rubble at this site could result in a better constrained biostratigraphy of the contact of the Juana Lopez nd Fort Hayes at this significant location. I) Known Collections/Excavations/Publications/Other Forms I/A 12) Sensitivity | | | | |
| Rescarch Potential/Significance urther study could refine the biostratigraphy of this site. O) Recommendations for Further Work xcavation and removal of the rubble at this site could result in a better constrained biostratigraphy of the contact of the Juana Lopez nd Fort Hayes at this significant location. I) Known Collections/Excavations/Publications/Other Forms I/A 12) Sensitivity | | | | |
| Rescarch Potential/Significance urther study could refine the biostratigraphy of this site. O) Recommendations for Further Work xcavation and removal of the rubble at this site could result in a better constrained biostratigraphy of the contact of the Juana Lopez nd Fort Hayes at this significant location. I) Known Collections/Excavations/Publications/Other Forms I/A 12) Sensitivity | | | | |
| Descarch Potential/Significance Uniter study could refine the biostratigraphy of this site. O) Recommendations for Further Work Excavation and removal of the rubble at this site could result in a better constrained biostratigraphy of the contact of the Juana Lopez and Fort Hayes at this significant location. I) Known Collections/Excavations/Publications/Other Forms I/A 12) Sensitivity | | | | |
| Rescarch Potential/Significance urther study could refine the biostratigraphy of this site. O) Recommendations for Further Work xcavation and removal of the rubble at this site could result in a better constrained biostratigraphy of the contact of the Juana Lopez nd Fort Hayes at this significant location. I) Known Collections/Excavations/Publications/Other Forms I/A 12) Sensitivity | | | | |
| Research Potential/Significance urther study could refine the biostratigraphy of this site. O) Recommendations for Further Work excavation and removal of the rubble at this site could result in a better constrained biostratigraphy of the contact of the Juana Lopez and Fort Hayes at this significant location. I) Known Collections/Excavations/Publications/Other Forms I/A 12) Sensitivity | | | | |
| Research Potential/Significance In the study could refine the biostratigraphy of this site. D) Recommendations for Further Work Reavantion and removal of the rubble at this site could result in a better constrained biostratigraphy of the contact of the Juana Lopez and Fort Hayes at this significant location. I) Known Collections/Excavations/Publications/Other Forms (A 12) Sensitivity | | | | |
| Research Potential/Significance In the study could refine the biostratigraphy of this site. Proceeding the process of the study could refine the biostratigraphy of this site. Recommendations for Further Work Recommendation for Further Work Recommendation for Further Work Recommendation for Further Work R | | | | |
| Research Potential/Significance Inther study could refine the biostratigraphy of this site. O) Recommendations for Further Work Execution and removal of the rubble at this site could result in a better constrained biostratigraphy of the contact of the Juana Lopez and Fort Hayes at this significant location. I) Known Collections/Excavations/Publications/Other Forms A I) Sensitivity O Critical Significant I important I insignificant I unknown II. ADMINISTRATIVE DATA: S) Fossil Storage N/A | | | | |
| Research Potential/Significance urther study could refine the biostratigraphy of this site. O) Recommendations for Further Work xeavation and removal of the rubble at this site could result in a better constrained biostratigraphy of the contact of the Juana Lopez and Fort Hayes at this significant location. I) Known Collections/Excavations/Publications/Other Forms I/A 12) Sensitivity | | | | |
| Descarch Potential/Significance Uniter study could refine the biostratigraphy of this site. O) Recommendations for Further Work Excavation and removal of the rubble at this site could result in a better constrained biostratigraphy of the contact of the Juana Lopez and Fort Hayes at this significant location. I) Known Collections/Excavations/Publications/Other Forms I/A 12) Sensitivity | | | | |
| Descarch Potential/Significance Uniter study could refine the biostratigraphy of this site. O) Recommendations for Further Work Excavation and removal of the rubble at this site could result in a better constrained biostratigraphy of the contact of the Juana Lopez and Fort Hayes at this significant location. I) Known Collections/Excavations/Publications/Other Forms I/A 12) Sensitivity | Paleoecologic Inferences | | | |
| Descarch Potential/Significance urther study could refine the biostratigraphy of this site. O) Recommendations for Further Work excavation and removal of the rubble at this site could result in a better constrained biostratigraphy of the contact of the Juana Lopez and Fort Hayes at this significant location. 1) Known Collections/Excavations/Publications/Other Forms 1/A 12) Sensitivity | • | | | |
| urther study could refine the biostratigraphy of this site. 0) Recommendations for Further Work Excavation and removal of the rubble at this site could result in a better constrained biostratigraphy of the contact of the Juana Lopez and Fort Hayes at this significant location. 1) Known Collections/Excavations/Publications/Other Forms 1/A 12) Sensitivity | he Fort Hayes Mb. is a warm water bentr | 10S. | | |
| urther study could refine the biostratigraphy of this site. 0) Recommendations for Further Work Excavation and removal of the rubble at this site could result in a better constrained biostratigraphy of the contact of the Juana Lopez and Fort Hayes at this significant location. 1) Known Collections/Excavations/Publications/Other Forms 1/A 12) Sensitivity | | | | |
| urther study could refine the biostratigraphy of this site. 0) Recommendations for Further Work Excavation and removal of the rubble at this site could result in a better constrained biostratigraphy of the contact of the Juana Lopez and Fort Hayes at this significant location. 1) Known Collections/Excavations/Publications/Other Forms 1/A 12) Sensitivity | | | | |
| urther study could refine the biostratigraphy of this site. 0) Recommendations for Further Work Excavation and removal of the rubble at this site could result in a better constrained biostratigraphy of the contact of the Juana Lopez and Fort Hayes at this significant location. 1) Known Collections/Excavations/Publications/Other Forms 1/A 12) Sensitivity | | | | |
| urther study could refine the biostratigraphy of this site. 0) Recommendations for Further Work Excavation and removal of the rubble at this site could result in a better constrained biostratigraphy of the contact of the Juana Lopez and Fort Hayes at this significant location. 1) Known Collections/Excavations/Publications/Other Forms 1/A 12) Sensitivity | | | | |
| urther study could refine the biostratigraphy of this site. 0) Recommendations for Further Work Excavation and removal of the rubble at this site could result in a better constrained biostratigraphy of the contact of the Juana Lopez and Fort Hayes at this significant location. 1) Known Collections/Excavations/Publications/Other Forms 1/A 12) Sensitivity | | | | |
| urther study could refine the biostratigraphy of this site. 0) Recommendations for Further Work Excavation and removal of the rubble at this site could result in a better constrained biostratigraphy of the contact of the Juana Lopez and Fort Hayes at this significant location. 1) Known Collections/Excavations/Publications/Other Forms 1/A 12) Sensitivity | Research Potential/Significance | | | |
| 0) Recommendations for Further Work xcavation and removal of the rubble at this site could result in a better constrained biostratigraphy of the contact of the Juana Lopez nd Fort Hayes at this significant location. 1) Known Collections/Excavations/Publications/Other Forms 1//A 12) Sensitivity | | | | |
| 0) Recommendations for Further Work xcavation and removal of the rubble at this site could result in a better constrained biostratigraphy of the contact of the Juana Lopez nd Fort Hayes at this significant location. 1) Known Collections/Excavations/Publications/Other Forms 1//A 12) Sensitivity | urther study could refine the biostratigrap | ohy of this site. | | |
| xcavation and removal of the rubble at this site could result in a better constrained biostratigraphy of the contact of the Juana Lopez nd Fort Hayes at this significant location. 1) Known Collections/Excavations/Publications/Other Forms 1/A 12) Sensitivity | J. | • | | |
| xcavation and removal of the rubble at this site could result in a better constrained biostratigraphy of the contact of the Juana Lopez and Fort Hayes at this significant location. 1) Known Collections/Excavations/Publications/Other Forms 1/A 12) Sensitivity | | | | |
| xcavation and removal of the rubble at this site could result in a better constrained biostratigraphy of the contact of the Juana Lopez and Fort Hayes at this significant location. 1) Known Collections/Excavations/Publications/Other Forms 1/A 12) Sensitivity | | | | |
| xcavation and removal of the rubble at this site could result in a better constrained biostratigraphy of the contact of the Juana Lopez and Fort Hayes at this significant location. 1) Known Collections/Excavations/Publications/Other Forms 1/A 12) Sensitivity | | | | |
| xcavation and removal of the rubble at this site could result in a better constrained biostratigraphy of the contact of the Juana Lopez and Fort Hayes at this significant location. 1) Known Collections/Excavations/Publications/Other Forms 1/A 12) Sensitivity | | | | |
| xcavation and removal of the rubble at this site could result in a better constrained biostratigraphy of the contact of the Juana Lopez and Fort Hayes at this significant location. 1) Known Collections/Excavations/Publications/Other Forms 1/A 12) Sensitivity | (1) Recommendations for Further W. | ork | | |
| 1) Known Collections/Excavations/Publications/Other Forms 1/A 12) Sensitivity | | | | |
| 1) Known Collections/Excavations/Publications/Other Forms 1/A 12) Sensitivity | xcavation and removal of the rubble at th | is site could result in a | ı better constrained biostratigrapl | hy of the contact of the Juana Lopez |
| 1) Known Collections/Excavations/Publications/Other Forms 1/A 12) Sensitivity | | | | |
| 12) Sensitivity Critical significant important insignificant unknown I. ADMINISTRATIVE DATA: 15) Fossil Storage N/A | | | | |
| 12) Sensitivity Critical significant important insignificant unknown I. ADMINISTRATIVE DATA: 15) Fossil Storage N/A | | | | |
| 12) Sensitivity Critical significant important insignificant unknown I. ADMINISTRATIVE DATA: 5) Fossil Storage N/A | | | | |
| 12) Sensitivity Critical significant important insignificant unknown I. ADMINISTRATIVE DATA: 5) Fossil Storage N/A | | D 111 11 12 12 12 12 12 12 12 12 12 12 12 | n | |
| 12) Sensitivity | Known Collections/Excavations/ | Publications/Other | Forms | |
| 12) Sensitivity | /^ | | | |
| I. ADMINISTRATIVE DATA: 5) Fossil Storage N/A | in. | | | |
| I. ADMINISTRATIVE DATA: 5) Fossil Storage N/A | | | | |
| I. ADMINISTRATIVE DATA: 5) Fossil Storage N/A | | | | |
| I. ADMINISTRATIVE DATA: 5) Fossil Storage N/A | | | | |
| I. ADMINISTRATIVE DATA: 5) Fossil Storage N/A | | | | |
| I. ADMINISTRATIVE DATA: 5) Fossil Storage N/A | | | | |
| I. ADMINISTRATIVE DATA: 5) Fossil Storage N/A | 12) Sensitivity () Critical () sign | nificant 🔘 importa | nt 🔾 insignificant 🔾 unk | nown |
| 5) Fossil Storage N/A | , | ~ ' | · - | |
| 1,242,000 | I. ADMINISTRATIVE DATA: | | | .* |
| 1,242,000 | 5) Fossil Storage N/A | | | |
| 6) Recorder DLN Date 10/13/98 | 0) 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | | | |
| | 16) Recorder DLN | | | Date 10/13/98 |

| 1) Resource No. 11/01/97- | -02 | PALEO | NTOI | OGICAL COMPONEN | T FORM |
|--|---|---|----------------------|---|--|
| | | 2) TempNo: | 20 | 3) Site Name J. L.'s Shark | s |
| Northing: | | Easting: | | | |
| I. PALEONTOLOGICAL | DATA: | | | | |
| 4) Type of Locality Invert | tebrate, Vertebra | te | | | |
| , 31 | | | | | |
| 5) Formation/Horizon/Ge | eologic Age | Carlile Fm. | Ju | ana Lopez Mb. | Upper Cretaceous |
| 6) Description of Geology | and Topograph | ny | | | |
| meters. The sandstone has passortment of shark and bon | pebble clasts, ph ny fish teeth. The Hayes Mb. of the | osphate nodules, Juana Lopez rest | a shelly s on a s | ed sandstone. The sandstone va fauna dominated by oysters, cas cour surface at the contact with t id covered at this site. The Juana | ts of plant debris and a varied he Codell Sandstone. The |
| Specimen | | | | | |
| casts of plant debris | | | | | |
| Lopha ivgubris | | | | | |
| inoceremid fragments & pris | ims | | | | |
| Pironocycles nuvomexicanus | \$ | | <u> </u> | | |
| Ptychodus anonymus | | | | | |
| Ptychodus whipplei | | | | | |
| Cantioscyllium decipiens | | | | | |
| Scapanorhynchus raphiodor | 1 | | | | |
| Cretolamna appendiculata | | | | | |
| Squalicorax falcatus | | | 1 | | |
| Scyliorhinidae | | | | | |
| Rhinobatus incertus | | | | | |
| Pseudohypolophus mcnultyi | | | | | |
| Ischyrhiza texana | | | | | |
| Ptychotrygon hooveri | | | | | |
| Ptychotrygon triangularis | | , <u>, , , , , , , , , , , , , , , , , , </u> | | | |
| Cretorectolobus sp. | | | | | |
| Ptychotrygon sp. | | | 1 | | |
| Chiloscyllium greeni | | | | | |
| Cretodus crassidens | | | | | |
| Enchodus sp. | | | | | |
| Pycnodontiformes | | | | | |
| Ischyrhiza sp. | | | | | |
| Pisces various taxa | | | | | |
| Echinoidea | | | | | |
| | | | | | |
| 8) Paleoecologic Inference | es | | | | |
| and Osteicthyes teeth and b | ones. | ssemblage of mari | ne verte | brate taxa. This is represented by | y a lag deposit of Elasmobranch |
| 9) Research Potential/Sig | - | romah rate a Alaan I | min bas: | reported on from the state of Co | slavada far tha Toi |

| 1) Resource No. 11/01/97-02 | PALEONTOLOGICAL COMPONENT FORM |
|--------------------------------|--|
| 10) Recommendations for F | urther Work |
| This site has produced more ta | xa of marine vertebrates than have been reported on from the state of Colorado for the Turonian. |
| 11) Known Collections/Exc | avations/Publications/Other Forms |
| | en published in, Aulia, 1982 and Krutak 1996 |
| | |
| 12) Sensitivity © Critical | ○ significant ○ important ○ insignificant ○ unknown |
| II. ADMINISTRATIVE DAT | <u>A:</u> |

10/11/98

Date

15) Fossil Storage

16) Recorder DLN

| 2) TempNo: Easting: PALEONTOLOGICAL DATA: Easting: |) Resource No. 11 | 02/97-01 | PALEON | TOLOGICAL COMPON | ENT FORM |
|--|------------------------|-----------------------|-------------------------|-------------------------------------|-----------------------------------|
| PALEONTOLOGICAL DATA: 1) Type of Locality Vertebrate and Invertebrate 3) Formation/Horizon/Geologic Age Greenhorn Ls Lincoln Limestone Mb. Cenomanian 3) Description of Geology and Topography 3ray limestone, weathering brown, biofurbated, flaggy. Oysters are common. The limestone is muddy with common inocerimid price innestone forms thin beds (1-3 meters) separated by shales 2-3 times thicker than the limestones. Specimen | | | 2) TempNo: | 3) Site Name Lincoln S | Sharks |
| 1) Type of Locality Vertebrate and Invertebrate 3) Formation/Horizon/Geologic Age Greenhorn Ls Lincoln Limestone Mb. Cenomanian 3) Description of Geology and Topography 3) Septimestone, weathering brown, bioturbated, flaggy. Oysters are common. The limestone is muddy with common inocerimid printer limestone forms thin beds; (1-3 meters) separated by shales 2-3 times thicker than the limestones. Specimen | Northing: | | Easting: | | |
| Pormation/Horizon/Geologic Age Greenhom Ls Lincoln Limestone Mb. Cenomanian Description of Geology and Topography Forey limestone, weathering brown, bloturbated, flaggy, Oysters are common. The limestone is muddy with common inocertnid price he limestone forms thin beds (1-3 meters) separated by shales 2-3 times thicker than the limestones. Specimen Roceramus ginterensis Streidae Squalicorax curvatus Fretoxyrhina mantelli Roceramus prefragilus Paleoecologic Inferences Rearm water environment. The presence of C. mantelli might indicate a deeper water column (J. D. Stewart pers. com.). Paleoecologic Inferences Rearm water environment. The presence of C. mantelli might indicate a deeper water column (J. D. Stewart pers. com.). Paleoecologic Inferences Rearm water environment. The presence of C. mantelli might indicate a deeper water column (J. D. Stewart pers. com.). Paleoecologic Inferences Research Potential/Significance The limestone at this site and the adjoining 11/02/97-02 has a rich fauna that would offer a valuable research site. Paleoecologic Inferences Research Potential/Significance The limestone at this site is recommend. Paleoecologic Inferences Research Potential/Significance The limestone at this site is recommend. Paleoecologic Inferences Research Potential/Significance The limestone at this site is recommend. Paleoecologic Inferences Research Potential/Significance The limestone at this site is recommend. Paleoecologic Inferences Research Potential/Significance The limestone at this site is recommend. Paleoecologic Inferences Research Potential/Significance The limestone at this site is recommend. Paleoecologic Inferences Research Potential/Significance The limestone at this site is recommend. Paleoecologic Inferences Research Potential/Significance The limestone at this site is recommend. Paleoecologic Inferences Research Potential/Significance The limestone at this site is recommend. Paleoecologic Inferences Research Potential/Significance The limestone at the limestone is much | PALEONTOLOG | ICAL DATA: | • | | |
| Description of Geology and Topography irey limestone, weathering brown, bioturbated, flaggy, Oysters are common. The limestone is muddy with common inocerimid price is limestone forms thin beds (1-3 meters) separated by shales 2-3 times thicker than the limestones. Specimen | Type of Locality | Vertebrate and Inve | ertebrate | | , |
| inestone, weathering brown, bioturbated, flaggy. Oysters are common. The limestone is muddy with common inocerimid prine limestone forms thin beds (1-3 meters) separated by shales 2-3 times thicker than the limestones. Specimen |) Formation/Horiz | on/Geologic Age | Greenhorn Ls | Lincoln Limestone Mb. | Cenomanian |
| inestone, weathering brown, bioturbated, flaggy. Oysters are common. The limestone is muddy with common inocerimid prine limestone forms thin beds (1-3 meters) separated by shales 2-3 times thicker than the limestones. Specimen |) Description of G | ology and Topogra | aphy | | |
| The limestone forms thin beds (1-3 meters) separated by shales 2-3 times thicker than the limestones. Specimen | Prev limestone, weath | erina brown, bioturba | ated, flaggy. Oysters a | re common. The limestone is mud | dy with common inocerimid prisms. |
| Detectance spinterensis Streidae Squalicorax curvatus Streidae Squalicorax curvatus Streiday Strei | he limestone forms t | hin beds(1-3 meters |) separated by shales | 2-3 times thicker than the limestor | nes. |
| Detectance spinterensis Streidae Squalicorax curvatus Streidae Squalicorax curvatus Streiday Strei | Specimen | | <i>j'</i> | | |
| qualicorax curvatus pretoxyrhina mantelli proceramus prefragillus Paleoecologic Inferences Varm water environment. The presence of C. mantelli might indicate a deeper water column(J. D. Stewart pers. com.). P. Research Potential/Significance The limestone at this site and the adjoining 11/02/97-02 has a rich fauna that would offer a valuable research site. P. Recommendations for Further Work Further research at this site is recommend. P. Known Collections/Excavations/Publications/Other Forms VA 12) Sensitivity Critical Significant In ADMINISTRATIVE DATA: 15) Fossil Storage Fort Carson | | is | | <u>-</u> | |
| Pretoxyrhina mantelli Inoceramus prefragilus 8) Paleoecologic Inferences Narm water environment. The presence of C. mantelli might indicate a deeper water column(J. D. Stewart pers. com.). 9) Research Potential/Significance The limestone at this site and the adjoining 11/02/97-02 has a rich fauna that would offer a valuable research site. 10) Recommendations for Further Work Further research at this site is recommend. 11) Known Collections/Excavations/Publications/Other Forms N/A 12) Sensitivity Critical significant important insignificant unknown II. ADMINISTRATIVE DATA: 15) Possil Storage Fort Carson |)streidae | | | - | |
| Paleoecologic Inferences Warm water environment. The presence of C. mantelli might indicate a deeper water column(J. D. Stewart pers. com.). P) Research Potential/Significance The limestone at this site and the adjoining 11/02/97-02 has a rich fauna that would offer a valuable research site. 10) Recommendations for Further Work Further research at this site is recommend. 11) Known Collections/Excavations/Publications/Other Forms N/A 12) Sensitivity Critical significant important insignificant unknown II. ADMINISTRATIVE DATA: 15) Possil Storage Fort Carson | qualicorax curvatus | - Little . | | _ | |
| Paleoecologic Inferences Narm water environment. The presence of C. mantelli might indicate a deeper water column(J. D. Stewart pers. com.). P) Research Potential/Significance The limestone at this site and the adjoining 11/02/97-02 has a rich fauna that would offer a valuable research site. 10) Recommendations for Further Work Further research at this site is recommend. 11) Known Collections/Excavations/Publications/Other Forms N/A 12) Sensitivity Critical significant important insignificant unknown II. ADMINISTRATIVE DATA: 15) Possil Storage Fort Carson | Cretoxyrhina mantelli | | | _ | |
| Narm water environment. The presence of C. mantelli might indicate a deeper water column (J. D. Stewart pers. com.). P) Research Potential/Significance The limestone at this site and the adjoining 11/02/97-02 has a rich fauna that would offer a valuable research site. 10) Recommendations for Further Work Further research at this site is recommend. 11) Known Collections/Excavations/Publications/Other Forms N/A 12) Sensitivity Critical significant important insignificant unknown II. ADMINISTRATIVE DATA: 15) Possil Storage Fort Carson | noceramus prefragilu | S | | _ | |
| Varm water environment. The presence of C. mantelli might indicate a deeper water column(J. D. Stewart pers. com.). P) Research Potential/Significance The limestone at this site and the adjoining 11/02/97-02 has a rich fauna that would offer a valuable research site. 10) Recommendations for Further Work Further research at this site is recommend. 11) Known Collections/Excavations/Publications/Other Forms N/A 12) Sensitivity Critical significant important insignificant unknown II. ADMINISTRATIVE DATA: 15) Fossil Storage Fort Carson | | | • | | |
| Further research at this site is recommend. 11) Known Collections/Excavations/Publications/Other Forms N/A 12) Sensitivity Critical significant important insignificant unknown II. ADMINISTRATIVE DATA: 15) Fossil Storage Fort Carson | • | | ງ 11/02/97-02 has a rio | h fauna that would offer a valuable | e research site. |
| 11) Known Collections/Excavations/Publications/Other Forms N/A 12) Sensitivity Critical significant important insignificant unknown II. ADMINISTRATIVE DATA: 15) Fossil Storage Fort Carson | 10) Recommendati | ons for Further We | ork | | |
| 12) Sensitivity Critical significant important insignificant unknown II. ADMINISTRATIVE DATA: 15) Fossil Storage Fort Carson | Further research at th | nis site is recommeno | i . | | |
| 12) Sensitivity Critical significant important insignificant unknown II. ADMINISTRATIVE DATA: 15) Fossil Storage Fort Carson | 11) Known Collect | ons/Excavations/ | Publications/Other | Forms | |
| II. ADMINISTRATIVE DATA: 15) Fossil Storage Fort Carson | • | · · | | | |
| 15) Fossil Storage Fort Carson | | , | nificant O importar | nt Oinsignificant Ounkno | own . |
| | II. ADMINISTRAT | IVE DATA: | | | |
| 16) Recorder DLN Date 10/30/98 | 15) Fossil Storage | Fort Carson | | 4 | |
| | 16) Recorder DLN | l | | , | Date 10/30/98 |

| 1) Resource No. 11 | /02/97-02 | PALEO | NTOLOGICAL COM | IPONENT FOR | <u>RM</u> |
|---------------------------|--------------------------|------------------------|------------------------------|----------------------|------------------|
| | | 2) TempNo: | 22 3) Site Name | incoln Limestone Co | oral |
| Northing: | | Easting: | | | |
| I. PALEONTOLOG | ICAL DATA: | | | | |
| 4) Type of Locality | Invertebrate | | | | |
| 5) Formation/Horiz | on/Geologic Age | Greenhorn Ls | Lincoln Limestone Mb. | l | Jpper Cretaceous |
| 6) Description of G | eology and Topogra | phy | | | |
| Limestone grey, weath | nering to brown, flagg | y with ripple marks. | The limestone is bioturbated | and contains inoceri | mid prisms. This |
| limestone bed is sepa | rated from 11/02/97-0 | 01 by a shale layer. B | oth limestone beds are app. | 1-2 meters thick. | |
| Specimen | | \mathbf{y}' | | | |
| Inoceramus ginterens | is | | | | |
| Ostreidae | | | | | |
| Calycoceras canitauri | num | | | | |
| solitary coral | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| 0. 7.1 | | | | | |
| 8) Paleoecologic Inf | | | | | |
| Coral is not common i | in the Western Interio | or Seaway. This would | d indicate warm clear water | conditions. | |
| | | | | | |
| | | | | | |
| 9) Research Potent | ial/Significance | | | | |
| Coral is a rare find. The | - | his site is anna | | | |
| Coraris a raie illia. 11 | ne 1033ii potentiai at t | riis site is good. | | | |
| | | | | | |
| | | | | | |
| 10) Recommendation | ons for Further Wo | ork | | | |
| Further study is highl | y recommend. | | | | |
| | | | | | |
| | | | | | |
| | /D | D-11:4: /04: | | | |
| 11) Known Collecti | ons/Excavations/I | Publications/Other | r Forms | | |
| N/A | | | | | |
| | | | | | |
| | | | | | |
| | Cuitinal Onion | ificant () imports | ant Cincignificant C | unknown | |
| 12) Sensitivity | Critical Osigni | ificant O importa | ant O insignificant C | ∠ UHKHUWN | |
| II. ADMINISTRAT | IVE DATA: | | | | |
| 15) Fossil Storage | Fort Carson | | | | |
| IC) Desirate DIN | | | | D-4- | 10/30/98 |
| 16) Recorder DLN | | | | Date | 10/30/30 |
| | | | | | |

| 1) Resource No. 11 | /02/97-03 | PALEO | NTOLOGICAL | COMPONE | NT FORM | |
|-----------------------|---|-----------------------|------------------------|------------------|---------------------|--------------|
| | | 2) TempNo: | 23 3) Site N | ame Bridge Cre | ek Site | |
| Northing: | *************************************** | Easting: | | | | |
| I. PALEONTOLOG | ICAL DATA: | | | | | |
| 4) Type of Locality | Invertebrate | | | | | |
| 5) Formation/Horiz | on/Geologic Age | Greenhorn Ls | Middle Bridge C | reek | Turonian | |
| 6) Description of G | | aphy | | | | |
| | | | grey. The limestone is | eroded to cobble | es and boulders cap | ping rounded |
| hills. | | | | | | |
| Specimen | | , | | | | |
| Mytiloides columbianu | ıs | | | | | |
| Vascoceras birchbyi | | | | | | |
| Watinoceras colorado | ense | | | | | |
| | , | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| 9) Research Potent | ial/Significance | | | | | |
| Further study should | produce more inverte | ebrate taxa. Both ami | monites are good rang | e and zone taxa. | | |
| | | | | | | |
| | | | | | | |
| 10) Recommendati | ons for Further W | ork | | | | |
| No further work requi | red at this time. | | ` | | | |
| | | | | | | |
| | | | | | | |
| 11) Known Collect | ions/Excavations/ | Publications/Othe | er Forms | | | |
| N/A | , 2, | - | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| 12) Sensitivity (| Critical C sign | nificant | tant O insignifican | nt Ounknow | 'n | |
| II. ADMINISTRAT | IVE DATA: | | | | | |
| 15) Fossil Storage | Fort Carson | | | | | |
| | | | | | | |
| 16) Recorder DLN | I | | | | Date 10/30/9 | 10 |
| | | | | | | |

| 1) Resource No. 11 | /07/97-01 | PALEON | TOLOGICAL C | OMPONE | NT FO | RM |
|--|---|----------------------------|--|-----------------|--------------|------------------------|
| | | 2) TempNo: | 24 3) Site Nam | ne Fish Parts | North | |
| Northing: | · · · · · · · · · · · · · · · · · · · | Easting: | ####### | | | |
| . PALEONTOLOG | ICAL DATA: | ' | | | | |
| 4) Type of Locality | Vertebrate | | | | | |
| 5) Formation/Horiz | on/Geologic Age | Pierre Sh | Contact, Sharon Sp | orings/Rusty | | Upper Cretaceous |
| 5) Description of G | | anhv | | | | |
| 10/05/97-01 and has the iron oolites as foul | some similarities to th nd at 10/05/97-01 bu | nat site. This site is a h | sty Zone of the Pierre S lash of fish parts in a h ar. As with 10/05/97-01 ley were ever present. | ighly gypsifere | ous shale. | There are not any of |
| Specimen | | | _ | | | |
| Osteichtyes teeth & b | ones | | _ | | | |
| | | | | | | |
| 8) Paleoecologic Inf | erences | | | | | |
| This site is unique in | it's depositional natur | re. | | | | |
| | | | | | | |
| 9) Research Potent | | | | | | |
| i nis site is of the nigr | nest research potenti | al and snould be studi | ed for the unique geoloલ્ | gy and tapnon | iomy of this | s very ilmited outcrop |
| 10) Recommendati | ons for Further Wo | ork | | | | |
| This site is highly sus | ceptible to disturban | ce and erosion. It shou | ıld be studied as soon a | as possible in | connection | n with 10/05/97-01. |
| | | | | | | |
| 11) Known Collecti N/A | ons/Excavations/ | Publications/Other | Forms | | ., , . | |
| | | | | | | |
| 12) Sensitivity | Critical 🔾 sign | ificant O importa | nt O insignificant | Ounknow | n | |
| II. ADMINISTRAT | IVE DATA: | | | | | |
| 15) Fossil Storage | N/A | | | | | |
| 16) Recorder DLN | | | | | Date | 10/30/98 |

| 1) Resource No. 11/07/97-02 | <u>PALEONT</u> | OLOGICAL COMPO | NENT FORM |
|---|---------------------------------|-------------------------------|---------------------------------|
| | 2) TempNo: 25 | 3) Site Name B. pe | rplexus Site |
| Northing: | Easting: | | |
| PALEONTOLOGICAL DATA: | | | |
| Type of Locality Invertebrate | | | |
| Formation/Horizon/Geologic Age | Pierre Sh | Rusty Zone | Upper Cretaceous |
| Description of Geology and Topog | raphy | | • |
| rosional blowouts in shale hills produce | iron cemented concretions | with very common baculites | • |
| Specimen | | | |
| Baculites perplexus | , | • | |
| | · | | |
|) Paleoecologic Inferences | | | |
| his site is in shales in the lower part of | the Rusty Zone of the Pierre | Shale/ B. perpleyus range: | zone) |
| his site is in shales in the lower part of | the Rusty Zone of the Pierre | e Shale(B. perplexus range : | zone). |
|) Research Potential/Significance | | | |
| P) Research Potential/Significance This is a good marker bed and was used (10) Recommendations for Further V | l, in this survey, to constrain | | |
| P) Research Potential/Significance This is a good marker bed and was used (10) Recommendations for Further V | l, in this survey, to constrain | | |
| This site is in shales in the lower part of the | I, in this survey, to constrain | the biostratigraphy of the ot | |
|) Research Potential/Significance This is a good marker bed and was used 0) Recommendations for Further Valor further work required at this time 1) Known Collections/Excavations | I, in this survey, to constrain | the biostratigraphy of the ot | her sites in this general area. |
|) Research Potential/Significance his is a good marker bed and was used 0) Recommendations for Further V lo further work required at this time 1) Known Collections/Excavations I/A 12) Sensitivity () Critical () significance | l, in this survey, to constrain | the biostratigraphy of the ot | her sites in this general area. |
| P) Research Potential/Significance This is a good marker bed and was used 10) Recommendations for Further V No further work required at this time 11) Known Collections/Excavations N/A | l, in this survey, to constrain | the biostratigraphy of the ot | her sites in this general area. |

| Resource No. 11 | /08/97-01 | PALEC | NTOLOGICAL CO | | 7714 |
|--|--|---|--|----------------------------------|--------------------------|
| | | 2) TempNo: | 26 3) Site Name | Northern Slopes | |
| Northing: | | Easting: | | | |
| PALEONTOLOG | ICAL DATA: | | | | |
| Type of Locality | Invertebrate, Verteb | rate, Plants | | | |
|) Formation/Hori | zon/Geologic Age | Pierre Sh | unknown | | Upper Cretaceous |
| Description of G | eology and Topogra | phy | | | |
| xposed slopes of Pi | erre Shale as part of a | deep cutting erosion | onal arroyo. | | |
| ·nooimon | | | | | |
| Specimen Palm frounds | | | T | | |
| sh scales | | · · | · | | |
| Baculites sp. | | | + | | |
| noceramus sp. | | | + | | |
| | | | | | |
| • | | k shale environmen | nt that could be Sharon Spi | rings Mb. Fossils not o | diagnostic at this time. |
| ossils are found in some consideration of the constant of the | shale concretions. Dar | nment. Further stud | nt that could be Sharon Spi y should produce better sp s FC-12 site (Carpenter, 1 | pecimens that could gr | |
| Research Poten Research Poten Research Poten Independent of this Research Poten Research Poten | shale concretions. Dar | nment. Further stud valent to Carpenter | y should produce better sp | pecimens that could gr | |
| Fossils are found in second in secon | shale concretions. Dar tial/Significance eresting in this enviror site. This site is equi | nment. Further stud valent to Carpenter's | y should produce better sp s FC-12 site (Carpenter, 1 | pecimens that could gr | |
| Fossils are found in s P) Research Poten The fossil palm is intunderstanding of this 10) Recommendat Further field work sh | tial/Significance eresting in this enviror site. This site is equi- | nment. Further stud valent to Carpenter ork at information about | y should produce better sp s FC-12 site (Carpenter, 1 this site. | pecimens that could gr | |
| O) Research Poten The fossil palm is intenderstanding of this To) Recommendat Further field work sh | tial/Significance eresting in this enviror site. This site is equi- | nment. Further stud valent to Carpenter's ork at information about Publications/Oth | y should produce better sp s FC-12 site (Carpenter, 1 this site. | pecimens that could gr | |
| O) Research Poten The fossil palm is intenderstanding of this The fossil palm is intended. The fossil palm is intend | tial/Significance eresting in this enviror is site. This site is equivalent to the site is equiv | nment. Further stud valent to Carpenter's ork at information about Publications/Oth | y should produce better sp s FC-12 site (Carpenter, 1 this site. | pecimens that could gr 1979). | |
| Fossils are found in s P) Research Poten The fossil palm is intunderstanding of this 10) Recommendat Further field work sh 11) Known Collect Carpenter 1979 and | tial/Significance eresting in this enviror is site. This site is equivalent to the site is equiv | nment. Further stud valent to Carpenter's ork at information about Publications/Oth | y should produce better sp s FC-12 site (Carpenter, 1 this site. | pecimens that could gr 1979). | |
| Fossils are found in some consists are found in | tial/Significance eresting in this enviror is site. This site is equivious for Further Woould produce importar ions/Excavations/I Evanoff 1996 Critical signi | nment. Further stud valent to Carpenter's ork at information about Publications/Oth | y should produce better sp s FC-12 site (Carpenter, 1 this site. | pecimens that could gr 1979). | |

| 1) Resource No. 11/ | 08/97-02 | PALEO | NTOLOGICAL C | OMPONENT FO | <u>RM</u> |
|---|------------------------|----------------------|------------------------|------------------------|--------------------|
| | | 2) TempNo: | 27 3) Site Nam | ne Southern Bridge Cre | eek |
| Northing: | | Easting: | | | |
| I. PALEONTOLOG | ICAL DATA: | | | | |
| 4) Type of Locality | Invertebrate | | | | |
| 5) Formation/Horiz | on/Geologic Age | Greenhorn Ls | Bridge Creek | | Upper Cretaceous |
| 6) Description of G | | | | | |
| Grey limestone found shales above the limes | near base of hills cap | oped with Codell Sar | dstone and rare broken | boulders of Juana Lope | z sandstone. Black |
| snales above the limes | storie are often armoi | eu with samustone b | oulueis. | | |
| Specimen | | | | | |
| Ostreidae | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| 8) Paleoecologic Inf | | | | | |
| Oyster beds in limest | one. | | | | |
| | | | | | |
| | | | | | |
| 9) Research Potent | ial/Significance | | | | |
| Low | | | | | |
| | | | | | |
| 1.0 | C - Death - W | 1_ | | | |
| 10) Recommendati No further work requi | | OLK | | | |
| ino luttilet work requi | red at this time. | | | | |
| | | | | | |
| 11) Known Collecti | iona /Propriationa / | Publications/Othe | er Forms | | |
| N/A | ons/Excavations/ | rublications, Othe | A Porms | · | |
| | | | | | |
| | | | | | |
| | _ | _ | | | |
| 12) Sensitivity (| Critical Sigr | ificant impor | tant insignificant | Ounknown | • |
| II. ADMINISTRAT | IVE DATA: | | | | |
| 15) Fossil Storage | N/A | | | | |
| 16) Recorder DLN | | | | Date | 10/30/98 |
| 25, 110001401 | | | | † | 1 |

| I) Resource No. 11/08/97-03 | <u>PALEO</u> | NTOLOGICAL CO | OMPONENT FO | <u>RM</u> |
|--|---------------------|---|------------------|-----------|
| | 2) TempNo: | 28 3) Site Nam | ne Ft. Hayes S-E | |
| Northing: | Easting: | | | |
| PALEONTOLOGICAL DATA: | | | | |
| Type of Locality Invertebrate | | | | |
|) Formation/Horizon/Geologic Age | Niobrara Fm. | Fort Hayes Mb. | | Coniacian |
|) Description of Geology and Topogra | aphy | | | |
| Surface at this site is armored with broken | massive boulders ar | nd cobbles of Ft. Hayes li | mestone. | |
| Specimen | | , | | |
| Specimen noceramus erectus | | T | | |
| Ostreidae | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| 3) Paleoecologic Inferences | | | | |
| Normal warm marine conditions. | | | | |
| | | | | |
| | | | | |
| | | | | |
| 9) Research Potential/Significance | | | | |
| Low | | | | |
| | | | | |
| | | | | |
| 10) Recommendations for Further We | ork | | | |
| No further work required at this time. | | | | |
| · | | | | |
| | | | | |
| | D 11' 4' - 104 | D | | |
| 11) Known Collections/Excavations/ | Publications/Othe | er forms | | |
| N/A | | | | |
| | | | | |
| | | | | |
| 12) Sensitivity Critical Sign | ificant O impor | tant insignificant | Ounknown | |
| | | • | | |
| II. ADMINISTRATIVE DATA: | | | | |
| | | | | |
| II. ADMINISTRATIVE DATA: 15) Fossil Storage N/A | , | | | 10/30/98 |

|) Resource No. 11/08/97-04 | <u>PALEON</u> | TOLOGICAL COMPO | NENT FORM |
|--|----------------------|----------------------------------|------------------------------|
| | 2) TempNo: | 29 3) Site Name Smoke | ey Hill Shale |
| Northing: | Easting: | | |
| PALEONTOLOGICAL DATA: | | | |
| Type of Locality Invertebrate | | | |
|) Formation/Horizon/Geologic Age | Niobrara Fm. | Smokey Hill Mb. | Upper Cretaceous |
|) Description of Geology and Topograp | | | |
| hale hills dark grey, fissile with thin benton | ites. Inoceremids up | to one meter in diameter with oy | sters growing on the shells. |
| Specimen | | | |
| noceramus sp. | | | · |
| Ostreidae | | _ | |
| | | | |
| | | | |
| | | • | |
| | | | |
| | | | |
| | | | |
| | | | |
|) Paleoecologic Inferences | | | |
| ow oxygen environment with soft surfaced | sea floor. | | |
| | | | |
| | | | |
| | | | |
| 9) Research Potential/Significance | | | |
| _ow | | | |
| | | | |
| | | | |
| | | | |
| 10) Recommendations for Further Wo | rk | | |
| No further work required at this time. | | | |
| · | | | |
| | | | |
| | | | |
| 11) Known Collections/Excavations/F | Publications/Other | Forms | |
| N/A | | | |
| | | | |
| | | | |
| | | | |
| 12) Sensitivity O Critical O signif | ficant () importa | ant 🌘 insignificant Ounl | known |
| , | | | |
| II. ADMINISTRATIVE DATA: | | , | |
| 15) Fossil Storage N/A | | | |
| , | | | |
| 16) Recorder DLN | | | Date 10/30/98 |

|) Resource No. 11/20/97-01 | PALEONTOLOG | ICAL COMPONE | NT FORM |
|--|---|---|-------------------------------------|
| | 2) TempNo: 30 3 |) Site Name Ft. Hayes | Road Cut |
| Northing: | Easting: | | |
| PALEONTOLOGICAL DATA: | , | • | |
| In containment | 100000 | | |
| Type of Locality Invertebrate | | | |
|) Formation/Horizon/Geologic Age | Niobrara Fm. Fort Ha | yes Mb. | Upper Cretaceous |
|) Description of Geology and Topogr | aphy | | |
| This site is a road cut that has an exceller im./ Ft. Hayes Mb. This is one of the bes the Codell and Juana Lopez sandstones layes is rubble covered. Above this point | t exposures of this interval found or are bioturbated. The Juana Lopez I | n Fort Carson. No fossils has sparse sharks' teeth | s were found in the Blue Hill Shale |
| Specimen | | | |
| remnocerimus deformis | | | |
| remnocerimus inconstance | | | |
| Cremnocerimus rotundatus | | | |
| | | | |
| 9) Research Potential/Significance | | | |
| This road cut offers a good example of th | e geology of the exposed interval. | | |
| | | | |
| 0) Recommendations for Further W | 'ork | | |
| No further work required at this time. | | | |
| | | | |
| 11) Vnovn Collections / Everyations | /Publications /Other Forms | | |
| l 1) Known Collections/Excavations NA | i abheadons/ Other Porms | | |
| WA. | | | |
| | | | |
| 12) Sensitivity O Critical O sig | nificant | significant Ounknov | vn |
| I. ADMINISTRATIVE DATA: | | | |
| 15) Fossil Storage Fort Carson | | | |
| 16) Recorder DLN | | | Date 10/30/98 |
| ···, | | | 1 |

| Resource No. 11/21/97-01 | <u>PALEO</u> | NTOLOGICA | L COMPO | NENT FORM |
|---|----------------------|-------------------|-----------------|--------------------------|
| | 2) TempNo: | 31 3) Sit | e Name Bridge | Creek inocerimids #1 |
| Northing: | Easting: | | | |
| PALEONTOLOGICAL DATA: | | | | |
| Type of Locality Invertebrate | | | | |
| Formation/Horizon/Geologic Age | Greenhorn Ls | Bridge Cree | k Mb. | Upper Cretaceous |
| Description of Geology and Topogra | aphy | | | |
| rass covered slopes below cliff forming s | andstones. Thin lime | estone beds expos | ed as non-veget | ated part of slopes. |
| Specimen | | | | |
| /lytiloides mytiloides | | | | |
| | | | | |
| | | | | |
| | | • | | |
| | | | | |
| | | | | |
| | | | | |
| 3) Paleoecologic Inferences | | | | |
| formal marine conditions. M. mytiloides vo | ery common. | | | |
| , | • | | | |
| | | | | |
| N. D | | | | |
| Research Potential/Significance | | | | |
| LOW | | | | • |
| | | | | |
| IO) December and stigns for Europhon W | onle | | | |
| 10) Recommendations for Further W No further work required at this time. | OI K | | | |
| to faither work required at this time. | | | | |
| | | | | |
| | | 4 | | |
| 11) Known Collections/Excavations/ | Publications/Oth | er Forms | × 70 × | |
| N/A | | | | |
| | | | | |
| | | | | |
| | | | | |
| 12) Sensitivity () Critical () sign | nificant | tant () insigni | ficant Ounk | nown |
| 3 0 | nificant | tant () insigni | ficant Ounk | nown |
| II. ADMINISTRATIVE DATA: | nificant | | ficant Ounk | nown |
| 3 0 | nificant | | ficant Ounk | nown Date 10/30/98 |

| 1) Resource No. 11/21/97-02 | PALEO: | NTOLOGICAL COM | PONENT FORM |
|--|---|--|--|
| | 2) TempNo: | 32 3) Site Name B | ridge Creek inocerimids #2 |
| Northing: | Easting: | | |
| . PALEONTOLOGICAL DATA: | | | |
| 1) Type of Locality Invertebrate | | | |
| 5) Formation/Horizon/Geologic Age | Greenhorn Ls | Middle Bridge Creek | Turonian |
| 5) Description of Geology and Topogra | phy | | |
| Thin limestone beds exposed on a grass co Colorado of the Middle Bridge Creek (pers. | overed slope below c . com. William Cobb | liff forming sandstones. This an).See Cobban & Scott, 197 | site is equivalent to Bed 97 at Pueblo, '2 p. 23. |
| Specimen | | | · |
| Mytiloides columbianus | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| 8) Paleoecologic Inferences | | | |
| Normal marine conditions with a very comm | non fauna of M. colu | mbianus | |
| | | | |
| | | | |
| 9) Research Potential/Significance | | | |
| Low | | | |
| | | | |
| | | | |
| 10) Decreased attack for Fronth on Wo | l- | | |
| 10) Recommendations for Further Wo | 1K | *************************************** | |
| No futther work required at this time. | | | |
| | | | |
| | | _ | |
| 11) Known Collections/Excavations/F | Publications/Othe | r Forms | |
| N/A | | | |
| | | | |
| | | | |
| 12) Sensitivity O Critical O signi | ificant | ant O insignificant C | unknown |
| , | mount _ @ import | / mognition | |
| II. ADMINISTRATIVE DATA: | | | |
| 15) Fossil Storage Fort Carson | | | |
| 16) Recorder DLN | | | Date 10/30/98 |
| 1 | | | 1 1 |

| Resource No. 11/ | 25/97-01 | PALE | ONTOLOGIC | AL CON | IPONENT FO | <u>RM</u> |
|------------------------|--------------------|--|-----------------------|------------------------------|--|--|
| | | 2) TempNo | : 33 3) S | ite Name | Pierre Place | |
| Northing: | | Easting |) : | | | • |
| PALEONTOLOGI | CAL DATA: | • | | | | |
| Type of Locality | Invertebrate, V | ertebrate, Plants | | | | |
| Type of Locality | | | | | | |
| Formation/Horiz | on/Geologic A | ge Pierre Sh | unknown | | | Upper Cretaceous |
| Description of Ge | ology and Top | ography | | | | |
| oturbated shales witl | n a fossil hash it | Pierre either Sharon S ust above containing p this area is remarkabl | lant debris, small(j | ale has a st uvenile) Bac | rong hydrocarbon od culites, small inocerin | or. At this site are nids, and large fish |
| pecimen | | | | | | |
| ant hash | | | | | | |
| oceramus sp. | | | | | | |
| aculites sp. | | | | | | |
| h scales | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| Paleoecologic Info | erences | | | | | |
| he juvenile invertebra | | ina. | | | | |
| ne javerme mirerteen | | | | | | |
| | | | | | | |
| | | | | | | |
| Research Potent | | | | | | |
| he taphonomy of this | s site should be | studied. | | | | |
| | | | | | | |
| | | | | | | |
| 0) Recommendation | ons for Furthe | r Work | | | | |
| his site could be stu | died in more de | oth to determine the si | gnificance of the ju | venile invert | ebrates and commor | n plant hash. |
| | | | | | | |
| | | | | | | |
| 1) Known Collecti | ons/Excavatio | ons/Publications/O | ther Forms | | | |
| /A | | , | | | | |
| ,,, | | | | | | |
| | | | | | | |
| | | | | | | |
| 12) Sensitivity (| Critical | significant | portánt 🔘 insig | nificant | Ounknown | |
| I. ADMINISTRAT | | | | | | |
| 5) Fossil Storage | N/A | | | | | |
| oj rossii storage | 13// 1 | | | | I | laneses ' |
| 16) Recorder DLN | | | | | Date | 10/30/98 |

| Resource No. 11/25/97-02 | 1 11 | PALEONTOLOGICAL COMPONENT FORM | | | | | |
|--|--|--------------------------------|--------------------|---------|-------------|---------------|-----|
| , | 2) Temp | <u></u> | 3) Site | Name Ra | nge Control | | |
| Northing: | Eas | ting: | | 1 | | | |
| PALEONTOLOGICAL DA | <u>ra:</u> | | | | | | |
| Type of Locality Invertebr | ate | | | | | | |
| Formation/Horizon/Geolo | gic Age Pierre Sh | Te | epee Zone | | | Upper Cretace | ous |
| Description of Geology and | | | | | | | |
| oad cut along tank road exposi | ng shales of the Tepee Z | one. | | | | | |
| pecimen | | | | | | | |
| enuites oralensis | | | | | | | |
| aculites scotti | | | | | | | |
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| Dalasasalasia Informana | | | | | | | |
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| | penthic fauna. | | | | | | |
| - | penthic fauna. | | | | | | |
| - | venthic fauna. | | | | | | |
| | venthic fauna. | | | | | | |
| arine shale with no observed b | | | | | | | |
| arine shale with no observed b | | | | | | | |
| arine shale with no observed b | | | | | | | |
| arine shale with no observed b | | | | | | | |
| arine shale with no observed b | | | | | | | |
| arine shale with no observed b Research Potential/Signin | licance | | | | | | |
| Research Potential/Signition O) Recommendations for F | icance urther Work | | | | | | |
| Research Potential/Signition Research Potential/Signition | icance urther Work | | | | | | |
| Research Potential/Signitive | icance urther Work | | | | | | |
| Research Potential/Signition Research Potential/Signition | icance urther Work | | | | | | |
| Research Potential/Signitive O) Recommendations for F o further work required at this | icance urther Work time. | /Other Forn | 18 | | | | |
| Research Potential/Signifum O) Recommendations for For further work required at this | icance urther Work time. | Other Form | ns | | | | |
| Research Potential/Signitw O) Recommendations for For further work required at this | icance urther Work time. | Other Forn | ns | | | | |
| Research Potential/Signitw O) Recommendations for For further work required at this | icance urther Work time. | Other Forn | 18 | | | | |
| Research Potential/Signifow O) Recommendations for For further work required at this | icance urther Work time. | Other Form | ns | | | | |
| Research Potential/Significations Research Potential/Significations O) Recommendations for Forther work required at this O) Known Collections/Exca | dicance urther Work time. avations/Publications | | ns • insignific | ant O | unknown | | |
| Research Potential/Signifow D) Recommendations for For further work required at this I) Known Collections/Excal/A Collections/Excal/A | urther Work time. avations/Publications | | | ant O | unknown | | |
| I. ADMINISTRATIVE DAT | urther Work time. avations/Publications | | | ant O | unknown | | |
| arine shale with no observed by Research Potential/Signification O) Recommendations for File further work required at this 1) Known Collections/Excell/A | urther Work time. avations/Publications | | | ant O | unknown | e 10/30/98 | |

| l) Resource No. 11/26/97-01 | PALEON | PALEONTOLOGICAL COMPONENT FORM | | | | |
|--|---|---------------------------------------|----------------|--|--|--|
| | 2) TempNo: | 35 3) Site Name J.L. Cliffs | | | | |
| Northing: | Easting: | | | | | |
| . PALEONTOLOGICAL DATA: | | | | | | |
| Type of Locality Invertebrate, Ve | rtebrate | | | | | |
|) Formation/Horizon/Geologic Ag | e Carlile Fm. | Juana Lopez Mb. | Upper Turonian | | | |
|) Description of Geology and Topo | graphy | | | | | |
| liff capping sandstone of the Juana L | ppez. | | | | | |
| Specimen | | | | | | |
| Sharks teeth | | _ | | | | |
| Pironocycles sp. | | | | | | |
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| • | | | | | | |
| • | epresent barrier sands. C | cross-bedding was observed at this si | te. | | | |
| • | epresent barrier sands. C | cross-bedding was observed at this si | te. | | | |
| • | epresent barrier sands. C | cross-bedding was observed at this si | te. | | | |
| Normal Juana Lopez for this area that | | cross-bedding was observed at this si | te. | | | |
| Normal Juana Lopez for this area that | | Cross-bedding was observed at this si | te. | | | |
| Normal Juana Lopez for this area that | | cross-bedding was observed at this si | te. | | | |
| Normal Juana Lopez for this area that | | cross-bedding was observed at this si | te. | | | |
| Normal Juana Lopez for this area that of the second | as at other sites. | cross-bedding was observed at this si | te. | | | |
| Normal Juana Lopez for this area that (Polymer 19) Research Potential/Significance Fair. Fauna does not seem as common (Polymer 10) Recommendations for Further | as at other sites. | | te. | | | |
| Normal Juana Lopez for this area that (Polymer 19) Research Potential/Significance Fair. Fauna does not seem as common (Polymer 10) Recommendations for Further | as at other sites. | | te. | | | |
| Normal Juana Lopez for this area that (Polymer 19) Research Potential/Significance Fair. Fauna does not seem as common (Polymer 10) Recommendations for Further | as at other sites. | | te. | | | |
| Normal Juana Lopez for this area that (Pormal Juana Lopez for this area that (Pormal Juana Common Fair. Fauna does not seem as common (Pormal Juana Common Recommendations for Further) | as at other sites. | | te. | | | |
| Normal Juana Lopez for this area that (2) Research Potential/Significance Fair. Fauna does not seem as common (10) Recommendations for Further Some of the sandstone at this site cou | as at other sites. Work d be disaggregated to ch | eck for mirco-verts. | te. | | | |
| Normal Juana Lopez for this area that (2) Research Potential/Significance Fair. Fauna does not seem as common (10) Recommendations for Further Some of the sandstone at this site count (11) Known Collections/Excavation | as at other sites. Work d be disaggregated to ch | eck for mirco-verts. | te. | | | |
| Normal Juana Lopez for this area that (20) Research Potential/Significance Fair. Fauna does not seem as common (10) Recommendations for Further Some of the sandstone at this site country (11) Known Collections/Excavation | as at other sites. Work d be disaggregated to ch | eck for mirco-verts. | te. | | | |
| Normal Juana Lopez for this area that a specific and spec | as at other sites. Work d be disaggregated to ch | eck for mirco-verts. | te. | | | |
| Normal Juana Lopez for this area that (2) Research Potential/Significance Fair. Fauna does not seem as common (10) Recommendations for Further Some of the sandstone at this site count (11) Known Collections/Excavation (N/A) | as at other sites. Work d be disaggregated to ch | eck for mirco-verts. | | | | |
| Normal Juana Lopez for this area that (19) Research Potential/Significance Fair. Fauna does not seem as common (10) Recommendations for Further Some of the sandstone at this site country (11) Known Collections/Excavation (12) Sensitivity (12) Critical (13) | work Id be disaggregated to chas/Publications/Other significant | eck for mirco-verts. | | | | |
| Normal Juana Lopez for this area that a second point of the sandstone at this site country. 10) Recommendations for Further Some of the sandstone at this site country. 11) Known Collections/Excavation N/A 12) Sensitivity Critical C second point of the sandstone at the sandstone at this site. | work Id be disaggregated to chas/Publications/Other significant | eck for mirco-verts. Forms | | | | |
| 8) Paleoecologic Inferences Normal Juana Lopez for this area that 19 9) Research Potential/Significance Fair. Fauna does not seem as common 10) Recommendations for Further Some of the sandstone at this site county 11) Known Collections/Excavation N/A 12) Sensitivity Critical Criti | work Id be disaggregated to chas/Publications/Other significant | eck for mirco-verts. Forms | | | | |

| l) Resource No. 02/24/98 | 3-01 | PALEON | TOLOGICA | L COMPONE | NT FORM | |
|--|---------------------------|-----------------------|------------------|--------------------|--------------------|------------|
| | | 2) TempNo: | 36 3) Site | Name J.L. Cliffs | #2 | |
| Northing: | | Easting: | | | | |
| . PALEONTOLOGICAL | DATA: | | | | | |
| Type of Locality Inve | ertebrate, Vertebra | te | | | | |
| 5) Formation/Horizon/C | Geologic Age | Carlile Fm. | Juana Lopez | Mb. | Turonia | ın |
| 6) Description of Geolog | y and Topograph | ny | | | | |
| Juana Lopez is a capping s Hayes above the Juana Lop | andstone at a Cod oez. | lell Sandstone cliff. | Cross bedding of | oserved in Juana L | opez at this site. | Eroded Ft. |
| Specimen | | * | • | | | |
| Ptychodus whipplei | | | _ | | | |
| bivalves | | | | | | |
| | | | | | | |
| | | | • | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| 9) Research Potential/S The geology of this site is i | | derstanding of the | Juana Lopez at F | ort Carson. | | |
| 10) Recommendations | for Further Worl | K | | | | |
| No further work required a | t this time. | | | | | |
| 11) Known Collections/ | /Excavations/Pu | ublications/Other | r Forms | | | |
| N/A | | | | | | |
| | | | | | | |
| | | | | | | |
| 12) Sensitivity () Cr | ritical (signific | cant . | ant () insignifi | icant Ounkno | wn | |
| 12) 2 2 1 1 1 1 1 | _ | | · - • | | | |
| II. ADMINISTRATIVE | | | | | | |
| 15) Fossil Storage N/A | \ | | | | | |
| 16) Recorder DLN | | | | | Date 10 | 31/98 |

| 1) Resource No. 02/24/98-02 | | PALEONTOLOGICAL COMPONENT FORM | | | | |
|---|-----------------------|--------------------------------|----------------------|---------------------|---------------------------------------|--|
| | | 2) TempNo: | 37 3) Site | Name Bridge C | Creek North | |
| Northing: | | Easting: | | | | |
| . PALEONTOLOG | CAL DATA: | | | | | |
| 4) Type of Locality | Invertebrate | | | | | |
| 5) Formation/Horiz | on/Geologic Age | Greenhorn Ls | Middle Bridge | : Creek | Upper Cretaceous | |
| 6) Description of Ge | | | | | | |
| Limestone hills in an a have increased the ex | area that the Army is | s actively using for tra | aining. The limeston | e is typical of the | e Bridge Creek. The Army's activities | |
| nave increased the ex | posure in uns area. | | | | | |
| Specimen | | | | | • | |
| Vascoceras birchbyi | | | | | | |
| Watinoceras colorado | ense | | | | | |
| Mytiloides sp. | | | | | | |
| | | | • | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| 8) Paleoecologic Inf | erences | | | | | |
| This site is in the W. | coloradoense range | zone. Normal warm | water marine condit | ions are inferred | at this site. | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| 9) Research Potent | | | | | | |
| This site is a good ma | arker bed. More inve | ertebrates could be to | ouna. | | | |
| | | | | | | |
| | | | | | | |
| 10) Recommendati | ons for Further W | /ork | | | | |
| No further work requi | | | | , | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| 11) Known Collect | ions/Excavations | /Publications/Oth | er Forms | | | |
| N/A | | | | | | |
| : | | | | | | |
| 1 | | | | | | |
| 12) Sensitivity (| Critical Osig | nificant . | rtant 🔾 insignifi | icant Ounkr | nown | |
| II. ADMINISTRAT | IVE DATA: | | · · | 4 | | |
| | Ft. Carson | | | | | |
| 15) Fossil Storage | i i. Caisuii | | | | | |
| 16) Recorder DLN | | | - | • | Date 10/31/98 | |
| | | | | | | |

| I) Resource No. 02/25/98-01 | PALEO | | |
|--|--|-----------------------------------|---|
| | 2) TempNo: | 38 3) Site Name Jr. | High Construction Site |
| Northing: | Easting: | | |
| . PALEONTOLOGICAL DATA: | | | |
|) Type of Locality Invertebrate | | | |
|) Formation/Horizon/Geologic Age | Pierre Sh | E. jenneyi zone | Upper Cretaceous |
| 6) Description of Geology and Topogra | phy | | |
| ossils exposed in soft shales and shale co | ncretions at a cons | truction site for the base middl | e school. |
| Specimen | | 3.50 | - a fin fait - 1 |
| Exiteloceras jenneyi | | <u> </u> | |
| Baculites sp. | | | |
| | | | |
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| | | | |
| | | | |
| | | | |
| | | | |
| 8) Paleoecologic Inferences | | | |
| , – | hin 4 meters of the | surface at this site. The F. ien | nevi zone has been Ar./Ar. Dated to 74.76 |
| Pierre Shale of the Upper Campanian is wit | hin 4 meters of the | surface at this site. The E. jen | neyi zone has been Ar./Ar. Dated to 74.76 |
| Pierre Shale of the Upper Campanian is wit +/-0.72 mya. | hin 4 meters of the | surface at this site. The E. jen | neyi zone has been Ar./Ar. Dated to 74.76 |
| Pierre Shale of the Upper Campanian is wit +/-0.72 mya. | hin 4 meters of the | surface at this site. The E. jen | neyi zone has been Ar./Ar. Dated to 74.76 |
| Pierre Shale of the Upper Campanian is wit +/-0.72 mya. (Obradovich, 1993). | hin 4 meters of the | surface at this site. The E. jen | neyi zone has been Ar./Ar. Dated to 74.76 |
| Pierre Shale of the Upper Campanian is wit +/-0.72 mya. (Obradovich, 1993). 9) Research Potential/Significance | | | |
| Pierre Shale of the Upper Campanian is wit +/-0.72 mya. (Obradovich, 1993). 9) Research Potential/Significance Any construction that requires exposure of | bedrock could expo | | |
| Pierre Shale of the Upper Campanian is wit +/-0.72 mya. (Obradovich, 1993). 9) Research Potential/Significance Any construction that requires exposure of | bedrock could expo | | |
| Pierre Shale of the Upper Campanian is wit +/-0.72 mya. (Obradovich, 1993). 9) Research Potential/Significance Any construction that requires exposure of | bedrock could expo | | |
| Pierre Shale of the Upper Campanian is with 1-0.72 mya. (Obradovich, 1993). P) Research Potential/Significance Any construction that requires exposure of Construction should be monitored by paleon | bedrock could expontologists. | | |
| Pierre Shale of the Upper Campanian is wit +/-0.72 mya. (Obradovich, 1993). 9) Research Potential/Significance Any construction that requires exposure of Construction should be monitored by paleol | bedrock could expontologists. | | |
| Pierre Shale of the Upper Campanian is wit +/-0.72 mya. (Obradovich, 1993). 9) Research Potential/Significance Any construction that requires exposure of Construction should be monitored by paleol | bedrock could expontologists. | | |
| Pierre Shale of the Upper Campanian is wit +/-0.72 mya. (Obradovich, 1993). 9) Research Potential/Significance Any construction that requires exposure of Construction should be monitored by paleol | bedrock could expontologists. | | |
| Pierre Shale of the Upper Campanian is with +/-0.72 mya. (Obradovich, 1993). Pierre Shale of the Upper Campanian is with +/-0.72 mya. (Obradovich, 1993). Pierre Shale of the Upper Campanian is with +/-0.72 mya. Pierre Shale of the Upper Campanian is with +/-0.72 mya. Pierre Shale of the Upper Campanian is with +/-0.72 mya. Pierre Shale of the Upper Campanian is with +/-0.72 mya. Pierre Shale of the Upper Campanian is with +/-0.72 mya. | bedrock could expontologists. | | |
| Pierre Shale of the Upper Campanian is with 4/-0.72 mya. (Obradovich, 1993). P) Research Potential/Significance Any construction that requires exposure of Construction should be monitored by paleon (10) Recommendations for Further Wo (10) No further work possible at this time. | bedrock could expontologists. | se fossils of scientific importal | |
| Pierre Shale of the Upper Campanian is wit +/-0.72 mya. (Obradovich, 1993). 9) Research Potential/Significance Any construction that requires exposure of Construction should be monitored by paleon (10) Recommendations for Further Wo No further work possible at this time. | bedrock could expontologists. | se fossils of scientific importal | |
| Pierre Shale of the Upper Campanian is with 1-0.72 mya. (Obradovich, 1993). 9) Research Potential/Significance Any construction that requires exposure of Construction should be monitored by paleous 10) Recommendations for Further Wo No further work possible at this time. | bedrock could expontologists. rk Publications/Oth | se fossils of scientific importal | |
| Pierre Shale of the Upper Campanian is with 1-0.72 mya. (Obradovich, 1993). 9) Research Potential/Significance Any construction that requires exposure of Construction should be monitored by paleous 10) Recommendations for Further Wo No further work possible at this time. | bedrock could expontologists. rk Publications/Oth | se fossils of scientific importal | |
| Pierre Shale of the Upper Campanian is wit +/-0.72 mya. (Obradovich, 1993). 9) Research Potential/Significance Any construction that requires exposure of Construction should be monitored by paleol 10) Recommendations for Further Wo No further work possible at this time. | bedrock could expontologists. rk Publications/Oth | se fossils of scientific importal | |
| Pierre Shale of the Upper Campanian is wit +/-0.72 mya. (Obradovich, 1993). 9) Research Potential/Significance Any construction that requires exposure of Construction should be monitored by paleol 10) Recommendations for Further Wo No further work possible at this time. | bedrock could expontologists. rk Publications/Oth | se fossils of scientific importal | |
| Pierre Shale of the Upper Campanian is wit +/-0.72 mya. (Obradovich, 1993). 9) Research Potential/Significance Any construction that requires exposure of Construction should be monitored by paleous 10) Recommendations for Further Wo No further work possible at this time. 11) Known Collections/Excavations/F Specimens at this site were recovered by D | bedrock could expontologists. rk Publications/Other | er Forms | nce. |
| Pierre Shale of the Upper Campanian is with 1-0.72 mya. (Obradovich, 1993). 9) Research Potential/Significance Any construction that requires exposure of Construction should be monitored by paleon 10) Recommendations for Further Wo No further work possible at this time. 11) Known Collections/Excavations/F Specimens at this site were recovered by E | bedrock could expontologists. rk Publications/Othersonnel. | er Forms | |
| Pierre Shale of the Upper Campanian is wit +/-0.72 mya. (Obradovich, 1993). 9) Research Potential/Significance Any construction that requires exposure of Construction should be monitored by paleol 10) Recommendations for Further Wo No further work possible at this time. 11) Known Collections/Excavations/F Specimens at this site were recovered by E 12) Sensitivity Critical Significance 13. Critical Significance 14. ADMINISTRATIVE DATA: | bedrock could expontologists. rk Publications/Other | er Forms | nce. |
| Pierre Shale of the Upper Campanian is wit +/-0.72 mya. (Obradovich, 1993). 9) Research Potential/Significance Any construction that requires exposure of Construction should be monitored by paleon 10) Recommendations for Further Wo No further work possible at this time. 11) Known Collections/Excavations/F Specimens at this site were recovered by E | bedrock could expontologists. rk Publications/Other | er Forms | nce. |
| 9) Research Potential/Significance Any construction that requires exposure of Construction should be monitored by paleo 10) Recommendations for Further Wo No further work possible at this time. 11) Known Collections/Excavations/F Specimens at this site were recovered by E 12) Sensitivity Critical Significance | bedrock could expontologists. rk Publications/Other | er Forms | nce. |

| | FALEO | PALEONTOLOGICAL COMPONENT FORM | | | |
|--|--|--|--|--|--|
| | 2) TempNo: | 39 3) Si | te Name Little Gra | and Canyon | |
| Northing: | Easting: | | | | |
| . PALEONTOLOGICAL DATA: | | | | | |
| 4) Type of Locality Verterate and Inve | ertebrate | | | | |
| 5) Formation/Horizon/Geologic Age | Upper Granerous | A. amphibo | lum zone | Cenomanian | |
| 6) Description of Geology and Topogr | raphy | | | | |
| Erosional arroyo cutting through, from top 2)marker bentonite at the Greenhorn/Gra | to bottom:1) 8 meter neros contact 3)Uppe | rs of the Lincoln L r Graneros, 10 m | imestone Member eters exposed. | of the Greenhorn Limestone | |
| Specimen | | | | | |
| Acanthoceras amphibolum | | | | | |
| Ostrea beloiti | | | | • | |
| Squalicorax curvatus | | | | | |
| Ptychodus decurrens | | | | | |
| Lamniformes shark | | | | | |
| | | | | | |
| A. amphibolum was found in a mass dea assemblage is in the dark non-calcareouthe bottom of the arroyo. This oyster bed thin layers. The provenance of these shathe Graneros. P. decurrens is a rare taxa 9) Research Potential/Significance A. amphibolum mass mortality site should oyster beds with shark should be found a | s shale of the Upper Contains thin layers or rk teeth is uncertain a d be studied to docurand researched. This | Graneros. The shift pieces of Inocer it this time. The sl ment this site's tap site is ideal for a d | arks teeth were fou imid shell and prist hale matrix might in onomy and geologi detailed geologic se | nd in a shale oyster bed as float in ns. The sharks teeth are in these dicate that this assemblage is from c context. The horizon producing the ection including at least two | |
| 8) Paleoecologic Inferences A. amphibolum was found in a mass dea assemblage is in the dark non-calcareouthe bottom of the arroyo. This oyster bed thin layers. The provenance of these shathe Graneros. P. decurrens is a rare taxa 9) Research Potential/Significance A. amphibolum mass mortality site shoul oyster beds with shark should be found a scientifically important fossil sites. This is 10) Recommendations for Further V | s shale of the Upper Contains thin layers or rk teeth is uncertain a d be studied to document researched. This is the best exposure or | Graneros. The shift pieces of Inocer it this time. The sl ment this site's tap site is ideal for a d | arks teeth were fou imid shell and prist hale matrix might in onomy and geologi detailed geologic se | nd in a shale oyster bed as float in ns. The sharks teeth are in these dicate that this assemblage is from c context. The horizon producing the ection including at least two | |
| A. amphibolum was found in a mass dea assemblage is in the dark non-calcareouthe bottom of the arroyo. This oyster bed thin layers. The provenance of these shathe Graneros. P. decurrens is a rare taxa 9) Research Potential/Significance A. amphibolum mass mortality site shoulty oyster beds with shark should be found a scientifically important fossil sites. This is | s shale of the Upper Contains thin layers or the teeth is uncertain and the studied to document researched. This is the best exposure of Work Ore DECAM fills in this destroyed. This site is | Graneros. The shift pieces of Inocer it this time. The slinent this site's tap site is ideal for a of the contact of the | arks teeth were fou imid shell and prist hale matrix might in onomy and geologic detailed geologic se e Graneros and the | nd in a shale oyster bed as float in ms. The sharks teeth are in these dicate that this assemblage is from c context. The horizon producing the ection including at least two e Greenhorn at Fort Carson. | |
| A. amphibolum was found in a mass dea assemblage is in the dark non-calcareouthe bottom of the arroyo. This oyster bed thin layers. The provenance of these shathe Graneros. P. decurrens is a rare taxa 9) Research Potential/Significance A. amphibolum mass mortality site shoul oyster beds with shark should be found a scientifically important fossil sites. This is 10) Recommendations for Further V. This site should be studied, in detail, bef Critical" because this site is going to be a | s shale of the Upper Contains thin layers ork teeth is uncertain and the studied to document researched. This is the best exposure of Vork Ore DECAM fills in this destroyed. This site is lity site. | Graneros. The shift pieces of Inocer it this time. The shift this time is the shift this site is tag site is ideal for a of the contact of the contact of the contact of the soft scientific impossion of scientific impossion. | arks teeth were fou imid shell and prist hale matrix might in onomy and geologic detailed geologic se e Graneros and the | nd in a shale oyster bed as float in ms. The sharks teeth are in these dicate that this assemblage is from c context. The horizon producing the ection including at least two e Greenhorn at Fort Carson. | |
| A. amphibolum was found in a mass dea assemblage is in the dark non-calcareouthe bottom of the arroyo. This oyster bed thin layers. The provenance of these shathe Graneros. P. decurrens is a rare taxa 9) Research Potential/Significance A. amphibolum mass mortality site shoul oyster beds with shark should be found a scientifically important fossil sites. This is 10) Recommendations for Further V. This site should be studied, in detail, bef Critical" because this site is going to be taphonomy of the ammonite mass mortal. | s shale of the Upper Contains thin layers ork teeth is uncertain and be studied to document researched. This is the best exposure of Vork Ore DECAM fills in this destroyed. This site is lity site. | Graneros. The shift pieces of Inocer it this time. The slinent this site's tap site is ideal for a of the contact of the contact of the contact of the contact of the cortact of the corta | arks teeth were fou imid shell and prist hale matrix might in onomy and geologic see Graneros and the prist as per currant playtance based on the content of the prist of the | nd in a shale oyster bed as float in ms. The sharks teeth are in these dicate that this assemblage is from a context. The horizon producing the ection including at least two a Greenhorn at Fort Carson. Ins. This site is designated as " in evertebrates recovered and the | |
| A. amphibolum was found in a mass dea assemblage is in the dark non-calcareouthe bottom of the arroyo. This oyster bed thin layers. The provenance of these shathe Graneros. P. decurrens is a rare taxa 9) Research Potential/Significance A. amphibolum mass mortality site shoul oyster beds with shark should be found a scientifically important fossil sites. This is 10) Recommendations for Further V. This site should be studied, in detail, bef Critical" because this site is going to be taphonomy of the ammonite mass mortal 11) Known Collections/Excavations James Kulbeth, DECAM Rangeland Man | s shale of the Upper Contains thin layers ork teeth is uncertain and be studied to document researched. This is the best exposure of Vork Ore DECAM fills in this destroyed. This site is lity site. | Graneros. The shift pieces of Inocer it this time. The slinent this site's tap site is ideal for a of the contact of the contact of the contact of the contact of the serosional arroyout of scientific important programs. | arks teeth were fou imid shell and prishale matrix might in onomy and geologic see Graneros and the orange per currant plantance based on the orange of the attention of the orange of the orange of the orange of the attention of the orange of the orange of the attention of the orange of the orang | nd in a shale oyster bed as float in ms. The sharks teeth are in these dicate that this assemblage is from c context. The horizon producing the ection including at least two e Greenhorn at Fort Carson. Ins. This site is designated as " in evertebrates recovered and the is survey. | |
| A. amphibolum was found in a mass dea assemblage is in the dark non-calcareouthe bottom of the arroyo. This oyster bed thin layers. The provenance of these shathe Graneros. P. decurrens is a rare taxa 9) Research Potential/Significance A. amphibolum mass mortality site shoul oyster beds with shark should be found a scientifically important fossil sites. This is 10) Recommendations for Further V. This site should be studied, in detail, bef Critical" because this site is going to be taphonomy of the ammonite mass mortal 11) Known Collections/Excavations James Kulbeth, DECAM Rangeland Man | s shale of the Upper Contains thin layers or k teeth is uncertain and the studied to document researched. This is the best exposure of Vork Ore DECAM fills in this destroyed. This site is lity site. /Publications/Othmagement Specialist, | Graneros. The shift pieces of Inocer it this time. The slinent this site's tap site is ideal for a of the contact of the contact of the contact of the contact of the serosional arroyout of scientific important programs. | arks teeth were fou imid shell and prishale matrix might in onomy and geologic see Graneros and the orange per currant plantance based on the orange of the attention of the orange of the orange of the orange of the attention of the orange of the orange of the attention of the orange of the orang | nd in a shale oyster bed as float in ms. The sharks teeth are in these dicate that this assemblage is from c context. The horizon producing the ection including at least two e Greenhorn at Fort Carson. Ins. This site is designated as " in e vertebrates recovered and the is survey. | |
| A. amphibolum was found in a mass dea assemblage is in the dark non-calcareouthe bottom of the arroyo. This oyster bed thin layers. The provenance of these shathe Graneros. P. decurrens is a rare taxa 9) Research Potential/Significance A. amphibolum mass mortality site shoul oyster beds with shark should be found a scientifically important fossil sites. This is 10) Recommendations for Further V. This site should be studied, in detail, bef Critical" because this site is going to be taphonomy of the ammonite mass mortal 11) Known Collections/Excavations James Kulbeth, DECAM Rangeland Man | s shale of the Upper Contains thin layers or k teeth is uncertain and the studied to document researched. This is the best exposure of Vork Ore DECAM fills in this destroyed. This site is lity site. /Publications/Othmagement Specialist, | Graneros. The shift pieces of Inocer it this time. The slinent this site's tap site is ideal for a of the contact of the contact of the contact of the contact of the serosional arroyout of scientific important programs. | arks teeth were fou imid shell and prishale matrix might in onomy and geologic see Graneros and the orange per currant plantance based on the orange of the attention of the orange of the orange of the orange of the attention of the orange of the orange of the attention of the orange of the orang | nd in a shale oyster bed as float in ms. The sharks teeth are in these dicate that this assemblage is from c context. The horizon producing the ection including at least two e Greenhorn at Fort Carson. Ins. This site is designated as " in evertebrates recovered and the is survey. | |

| l) Resource No. 04/24/98-01 | PALEO | NTOLOGICAL CO | DMPONENT FORM |
|---|--|---|--|
| | 2) TempNo: | 40 3) Site Nam | e Dino Hill #1 |
| Northing: | Easting: | | |
| PALEONTOLOGICAL DATA: | | | |
| Type of Locality Vertebrate | | | |
| Formation/Horizon/Geologic Age | Morrison Fm. | Upper Morrison | Jurassic |
|) Description of Geology and Topogra | aphy | | |
| evers are the Lower and Middle Morrison F | Fm. The Upper Morr tone some with algal | ison are grey-green silts g structures. Thin beds of | teep slopes with silts and common gypsum grading into red silts above. The grey-green sandstone are present in the Upper Morriso 5/98-01) |
| Specimen | | | • |
| Dinosaur bone frags | | | |
| algal structured limestone | | | |
| | | | |
| | | | |
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| | | | |
| | | | |
| 9) Research Potential/Significance | | | |
| /ery Good. | | | |
| | | | |
| | | | |
| (10) Recommendations for Further W | ork | | |
| A very detailed survey of this area is highly | | | |
| troly actualica curvey or time area to ing, | , | | |
| | | | |
| | | | |
| 11) Known Collections/Excavations/ | Publications/Oth | er Forms | |
| N/A | | | |
| | | | |
| | | | |
| | | • | |
| 12) Sensitivity Critical sign | nificant () impor | tant O insignificant | Ounknown |
| II. ADMINISTRATIVE DATA: | • · · · · · · · · · · · · · · · · · · · | - 0 | |
| | | | |
| 15) Fossil Storage N/A | | | |
| | | | Date 11/1/98 |

|) Resource No. 04/ | 25/98-01 | PALEONTOLOGICAL COMPONENT FORM | | | |
|---------------------------|--|--------------------------------|-----------------------|-----------------------|--------------------------------|
| | | 2) TempNo: | 41 3) Site Na | ame Dino Hill #2 | |
| Northing: | | Easting: | | | |
| PALEONTOLOG | CAL DATA: | | | | |
| Type of Locality | Vertebrate and Plan | nts | | | |
| Formation/Horiz | on/Geologic Age | Morrison Fm. | Upper Morrison | | Jurassic |
| Description of Ge | cology and Topogra | aphy | | | |
| see 04/24/98-01 for good. | general description.) | Thin beds of fresh w | ater limestone with a | scute of a turtle and | silts with fragments of fossil |
| pecimen | | | | | • |
| lyptops sp. | | | | | |
| ssil wood | | | <u></u> | | |
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| Paleoecologic Inf | | | | | |
| he fresh water limes | tone is non-algal with | h a small shelly fauna | nossible ostracods a | and gastropods. The | Glyptops scute is in this |
| ne nesn water miles | indicate a freeh wat | er pond type environs | nent | | ,, · |
| nestone. I nis would | indicate a fresh wat | er porto type environi | nent. | | |
| | | | | | |
| | | | | | |
| | | | | | |
| Research Potent | ial/Significance | | | | |
| ligh. The fossil wood | has structure and s | hould be studied. Th | e pond environment is | an important site. | |
| ngn. The lood wood | riao otraotaro arra o | | | • | |
| | | | | | |
| | | | | | |
| | | | | | |
| O) Bosommendati | ons for Further W | ork | | | |
| | ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~ | | | | |
| etailed research is h | nighly recommended | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| 1) Known Collecti | ons/Excavations/ | Publications/Othe | er Forms | | |
| I/A | | | | | |
| /A | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | _ | _ | | | |
| 12) Sensitivity (| 🕤 Critical 🔵 sigr | nificant . O impor | tant O insignificar | nt Ounknown | |
| • | W.T. T. A / D. A . | | * | | |
| I. ADMINISTRAT | IVE DATA: | | | | |
| 15) Fossil Storage | Fort Carson | | | | |
| 16) Recorder DLN | | | | | Date 11/1/98 |
| 16) Recorder DLN | | | | " | |
| | | | | | |

| | 25/98-02 | PALEONTOLOGICAL COMPONENT FORM | | | |
|--|--|--------------------------------|---|--------------|---------------------------------------|
| | | 2) TempNo: | 42 3) Site Name | Dino Hill #3 | |
| Northing: | | Easting: | | | |
| PALEONTOLOG | CAL DATA: | , | | | |
| m cr 1'4 | Vertebrate | | | | |
| Type of Locality | Vertebrate | | , | | |
|) Formation/Horiz | on/Geologic Age | Morrison Fm. | Upper Morrison | | Jurassic |
|) Description of Ge | ology and Topogra | aphy | | | |
| See 04/24/98-01) Th | | | hin sandstone lens. | | |
| 'naniman | | | | | |
| Specimen Dino bone frags | | | | | |
| astroliths | | 1,00 | | | |
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| | | | | | |
| | | | | | |
|) Palenecologic Inf | erences | | | | |
| • | | posited hone site. Mo | ost likely a distal crevasse s | splav | |
| • | | posited bone site. Mo | ost likely a distal crevasse s | splay. | |
| • | | posited bone site. Mo | ost likely a distal crevasse s | splay. | |
| • | | posited bone site. Mo | ost likely a distal crevasse s | splay. | |
| The taphonomy of this | s site is a stream de | posited bone site. Mo | ost likely a distal crevasse s | splay. | |
| The taphonomy of this | s site is a stream de | posited bone site. Mo | ost likely a distal crevasse s | splay. | · · · · · · · · · · · · · · · · · · · |
| he taphonomy of this | s site is a stream de | posited bone site. Mo | ost likely a distal crevasse s | splay. | · |
| The taphonomy of this | s site is a stream de | posited bone site. Mo | ost likely a distal crevasse s | splay. | |
| The taphonomy of this | s site is a stream de | posited bone site. Mo | ost likely a distal crevasse s | splay. | |
| The taphonomy of this O) Research Potent. | s site is a stream dep | | ost likely a distal crevasse s | splay. | |
| The taphonomy of this P) Research Potent. High. 10) Recommendation | s site is a stream depoint of | ork | | splay. | |
| The taphonomy of this P) Research Potent. High. Recommendation | s site is a stream depoint of | ork | | splay. | |
| The taphonomy of this Property of this Research Potent Research Potent Research Potent | s site is a stream depoint of | ork | | splay. | |
| The taphonomy of this P) Research Potent. High. Recommendation | s site is a stream depoint of | ork | | splay. | |
| The taphonomy of this P) Research Potent High. 10) Recommendation | s site is a stream deplication is all significance one for Further William site should be unco | ork vered and explored i | in depth. | splay. | |
| The taphonomy of this The taphonomy of this Research Potent: The sandstone at this The sandstone at this | s site is a stream deplication is all significance one for Further William site should be unco | ork vered and explored i | in depth. | splay. | |
| he taphonomy of this Research Potent: ligh. Recommendation The sandstone at this | s site is a stream deplication is all significance one for Further William site should be unco | ork vered and explored i | in depth. | splay. | |
| The taphonomy of this The taphonomy of this Research Potent: The sandstone at this The sandstone at this | s site is a stream deplication is all significance one for Further William site should be unco | ork vered and explored i | in depth. | splay. | |
| The taphonomy of this The taphonomy of this Research Potent: The sandstone at this The sandstone at this | s site is a stream deplication is all significance one for Further William site should be unco | ork vered and explored i | in depth. | splay. | |
| The taphonomy of this (i) Research Potent (i) Recommendation (ii) Recommendation (iii) Recomm | s site is a stream deposit of the stream dep | ork vered and explored i | in depth. | Splay. | |
| The taphonomy of this taphonomy of this taphonomy of the taphonomy of this taphonomy of the taphonomy of the taphonomy of | s site is a stream deplication in the stream deplication in the stream deplication is a stream deplication in the stream deplication in th | ork wered and explored i | in depth. | | |
| The taphonomy of this P) Research Potent High. 10) Recommendation The sandstone at this 11) Known Collection N/A 12) Sensitivity II. ADMINISTRAT | site is a stream deplication in the stream deplication is allowed by the stream deplication in the stream deplication is also site should be uncompared by the stream deplication in the stream deplication is also site in the stream deplication is also site in the stream deplication in the stream deplication is also site in the stream deplication in the stream deplication is also site in the stream deplication in the stream deplication is also site in the stream deplication in the stream deplication is also site in the stream deplication in the stream deplication is also site in the stream deplication in the stream deplication is also site in the stream deplication in the stream deplication is also site in the stream deplication in the stream deplication is also site in the stream deplication in the stream deplication is also site in the stream deplication in the stream deplication is also site in the stream deplication in the stream deplication is also site in the stream deplication in the stream deplication is also site in the stream deplication in the stream deplication is also site in the stream deplication in the stream deplication is also site in the stream deplication in the stream deplication is also site in the stream deplication in the stream deplication is also site in the stream deplication in the stream deplication is also site in the stream deplication in the stream deplication is also site in the stream deplication in the stream deplication is also site in the stream deplication in the st | ork wered and explored i | in depth. er Forms rtant () insignificant | | |
| P) Research Potent. High. 10) Recommendation The sandstone at this 11) Known Collecti N/A | site is a stream deplication in the stream deplication is allowed by the stream deplication in the stream deplication is also site should be uncompared by the stream deplication in the stream deplication is also site in the stream deplication is also site in the stream deplication in the stream deplication is also site in the stream deplication in the stream deplication is also site in the stream deplication in the stream deplication is also site in the stream deplication in the stream deplication is also site in the stream deplication in the stream deplication is also site in the stream deplication in the stream deplication is also site in the stream deplication in the stream deplication is also site in the stream deplication in the stream deplication is also site in the stream deplication in the stream deplication is also site in the stream deplication in the stream deplication is also site in the stream deplication in the stream deplication is also site in the stream deplication in the stream deplication is also site in the stream deplication in the stream deplication is also site in the stream deplication in the stream deplication is also site in the stream deplication in the stream deplication is also site in the stream deplication in the stream deplication is also site in the stream deplication in the stream deplication is also site in the stream deplication in the stream deplication is also site in the stream deplication in the stream deplication is also site in the stream deplication in the st | ork wered and explored i | in depth. er Forms rtant () insignificant | | 11/1/98 |

| | 25/98-03 | PALEONTOLOGICAL COMPONENT FORM | | | |
|---|-------------------------------|--------------------------------|----------------|----------------------------|-------------------------------------|
| | | 2) TempNo: | 43 | 3) Site Name Dino H | ill #4 |
| Northing: | | Easting: | | | |
| . PALEONTOLOGIC | CAL DATA: | | | | |
|) Type of Locality | Vertebrate and Inv | ertebrate | | | |
| 5) Formation/Horizo | n / Geologic Age | Morrison Fm. | Uppr | er Morrison | Jurassic |
| | • | | | | |
| 6) Description of Geo | | | inocaur bo | noc. The citte have smal | I calcareous structures that repres |
| oossible insect burrows | and/or nesting for | ms. | iiiosaui boi | iles. The sills have silla | i calcareous structures that repres |
| Specimen | | | | | • |
| Diplodocinae | | | T | | |
| Ichnofossils (insects) | | | + | | |
| | | | | | |
| | | | | • | |
| | | | | | |
| | | | | | |
| • | | | | | |
| | | | | | |
| 8) Paleoecologic Infer | | | | | |
| The possible insect bur | rows and/or nestin | g structures would ir | idicate that | these silts are a paleos | OI. |
| | | | | | |
| | | | | | |
| 9) Research Potentia | d/Significance | | | | |
| | | produce significant | Dinosaur f | ossils that has been fou | nd for this survey. The taphonomy |
| this site is of scientific i | importance. | | | | |
| | | | | | |
| | | | | | |
| 10) Recommendation | ns for Further W | or k | | | |
| | | | rits scienti | fic potential and the easo | e of access and operation. |
| | | | r its scientii | fic potential and the easo | e of access and operation. |
| 10) Recommendation This site should be exp | | | r its scienti | fic potential and the easo | e of access and operation. |
| This site should be exp | lored as a full scale | e quarry site; both for | | fic potential and the easo | e of access and operation. |
| This site should be exp | lored as a full scale | e quarry site; both for | | fic potential and the easo | e of access and operation. |
| This site should be exp | lored as a full scale | e quarry site; both for | | fic potential and the easo | e of access and operation. |
| This site should be exp | lored as a full scale | e quarry site; both for | | fic potential and the ease | e of access and operation. |
| This site should be exp 11) Known Collection | olored as a full scale | e quarry site; both for | er Forms | | |
| This site should be exp 11) Known Collection N/A | olored as a full scale | e quarry site; both for | er Forms | fic potential and the ease | |
| This site should be exp 11) Known Collection N/A 12) Sensitivity | ns/Excavations/ | e quarry site; both for | er Forms | | |
| This site should be exp 11) Known Collection N/A | ns/Excavations/ Critical Sign | e quarry site; both for | er Forms | | |
| This site should be exp 11) Known Collection N/A 12) Sensitivity II. ADMINISTRATIV | ns/Excavations/ Critical Sign | e quarry site; both for | er Forms | | |

| 1) Resource No. 04/25/98-04 | | PALEONTOLOGICAL COMPONENT FORM | | | |
|---|---|--------------------------------|--------------------------------|--------------------|---------------------|
| | • | 2) TempNo: | 4 3) Site Name Dino | Hill #5 | |
| Northing: | | Easting: | | | |
| I. PALEONTOLOGI | CAL DATA: | | | | |
| 4) Type of Locality | Vertebrate | | | | |
| 5) Formation/Horizo | n/Geologic Age | Morrison Fm. | Upper Morrison | Jı | ırassic |
| 6) Description of Geo | | | | | |
| (See 04/24/98-01) The meters higher in the se | nis is a Dino Bone s ction than 04/25/98 | ite at the contact of the -03. | lower grey-green silts and the | upper red silts. T | his site is about 5 |
| Specimen | | | | | |
| Sauropod | *************************************** | | - | | |
| | | | - | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | * |
| | | | | | |
| 9) Research Potentia | al/Significance | | | | |
| Part of a scapula of a | | his site. | | | |
| | • | | | | |
| 10) Recommendatio | ns for Further W | ork | | | |
| Further exploration is t | nighly recommended | d. | | | |
| | | | | | |
| | | | | | |
| 1 | ons/Excavations/ | Publications/Other | Forms | | |
| N/A | | | | | |
| | | | | | |
| | _ | _ | | | |
| 12) Sensitivity (|) Critical 🔘 sigr | nificant O importar | nt ○ insignificant ○ u | inknown | |
| II. ADMINISTRATI | VE DATA: | | | | |
| 15) Fossil Storage | N/A | | | | |
| 16) Recorder DLN | | | | Date | 11/1/98 |
| -3, 2.030.404 | | | | l | 1 |

| 1) Resource No. 04/25/98-05 | PALEON | NTOLOGICAL COMPON | ENT FORM |
|---|------------------------------------|-----------------------------|--------------|
| | 2) TempNo: | 45 3) Site Name Dino Hill | I#6 |
| Northing: | Easting: | | |
| PALEONTOLOGICAL DAT | <u>ΓΑ:</u> | | |
| Type of Locality Vertebra | ie | | |
| i) Formation/Horizon/Geolo | gic Age Morrison Fm. | Upper Morrison | Jurassic |
| 6) Description of Geology and | | | |
| see 04/24/98-01) North facing | slopes of Dino Hill. Somewhat | vegetated and tree covered. | |
| Specimen | , | | |
| Dino bone frags | | _ | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| B) Paleoecologic Inferences | | | |
| N/A | | | |
| | | | |
| | | | |
| 9) Research Potential/Signif Bone frags are common at this s | | field | |
| bolle frags are common at this s | ste. None were identified in the t | noid. | |
| | | | |
| 10) Recommendations for Fu | urther Work | | |
| This area should be explored in | | | |
| · | • | | |
| | | | |
| 11) Known Collections/Exca | vations/Publications/Other | Forms | |
| N/A | | | |
| | | | |
| | | | |
| 12) Sensitivity | ○ significant ○ importa | ant 🔾 insignificant 🔾 unkno | own |
| II. ADMINISTRATIVE DATA | <u>A:</u> | • | |
| 15) Fossil Storage N/A | | | |
| | | | Date 11/1/98 |
| 16) Recorder DLN | | • | Date |

| 1) Resource No. 04/25/98-06 | PALEO | NTOLOGICAL CO | MPONENT FORM |
|---|--|--|--|
| | 2) TempNo: | 46 3) Site Name | Little Dino |
| Northing: | Easting: | | |
| I. PALEONTOLOGICAL DATA: | ' | · | |
| 4) Type of Locality Vertebrate | | | |
| 4) Type of Locality Vertebrate | | | |
| 5) Formation/Horizon/Geologic Age | Morrison Fm. | Upper Morrison | Jurassic |
| 6) Description of Geology and Topograpi | hy | | |
| This site is in exposures of silts in a wooded a are more swelling clays in the silts at this site Dino Hill sites. | area on the north s it is possible that t | ide of Sullivan Park. The his site could be stratigra | silts at this site are grey-green. Since there phicly lower in the Upper Morrison than the |
| Specimen | | | |
| Dino bone | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | • |
| | | | , |
| 8) Paleoecologic Inferences | | | |
| N/A | | | |
| | | | |
| | | | |
| 9) Research Potential/Significance | | | |
| • | n a smaller animal t | han the sauropods at Din | o Hill. It is possible that some of the fossils at |
| this site are from a small Theropod; it would | be of interest to de | termine the taxa represen | ted at this site. |
| | | | |
| 10) Recommendations for Further Worl | k | | MACA |
| Further exploration is highly recommended. | | | |
| | | | |
| | | | |
| | | | |
| 11) Known Collections/Excavations/Pu | ublications/Othe | r Forms | |
| N/A | | | |
| | | | |
| | | | |
| 12) Sensitivity (Critical) signific | cant O import | ant O insignificant | Ounknown |
| 12) Sensitivity | cant Umport | ant Umbiginicant | ○ GIRGOTTI |
| II. ADMINISTRATIVE DATA: | | | |
| 15) Rossil Storage N/A | | | |

16) Recorder DLN

11/1/98

Date

| 1) Resource No. 04 | /25/98-07 | PALEON' | TOLOGICAL COMPO | ONENT FORM | |
|-------------------------|------------------------|----------------------------|------------------------------------|--------------------------------------|------|
| | • | 2) TempNo: | 3) Site Name Dino | Frags | |
| Northing: | | Easting: | | | |
| I. PALEONTOLOG | ICAL DATA: | | | | |
| 4) Type of Locality | Vertebrate | | | | |
| 5) Formation/Horiz | zon/Geologic Age | Morrison Fm. | Upper Morrison | Jurassic | |
| 6) Description of G | | | | , | |
| Variegated red and g | ey-green silts expos | ed in a west facing slope | e. These silts are similar in litl | nology to the fossiliferous silts at | Dino |
| Hill sites. | • | | | | ! |
| Specimen | | | - | | |
| Dino bone frags | | | - | | : |
| | | | | | 1 |
| | | | | | ! |
| | | | | | : |
| | | | | | |
| | | | | | |
| N/A 9) Research Potent | tial/Significance | | | | |
| Experience has show | n that sites with sma | all bone frags such as th | nis only occasionally produce | significant fossils. | |
| 10) Recommendati | ions for Further W | ork | | | |
| Further exploration w | rould be desirable, bu | it not critical. This gene | ral area should be surveyed fo | or better exposures. | |
| 11) Known Collect | ions/Excavations, | Publications/Other | Forms | | |
| 12) Sensitivity (| ◯ Critical | nificant O importar | nt Oinsignificant Ou | nknown | |
| II. ADMINISTRAT | IVE DATA: | | | | |
| 15) Fossil Storage | N/A | | | | |
| 16) Recorder DLN | | | | Date 11/1/98 | |
| ı | | | | • | |

| | 1) Resource No. 05/30/98-01 | PALEONTOLOGICAL COMPONENT FORM | | | |
|--|---|--------------------------------|--|--------------------------|----------------------------|
| ### PALEONTOLOGICAL DATA: 1) Type of Locality Plants 5) Pormation/Horizon/Geologic Age Dakota Fm. unknown Lower Cretaceous 6) Description of Geology and Topography 20ulders of Dakota Sandstone capping this part of Timber Mt. A limb cast over 1.5 meters in length found in-situ in a large boulder of Dakota Sandstone. **Specimen** Inspecimen** Inspe | | 2) TempNo: | 48 3) Site Nar | ne Dakota Tree | v |
| A) Type of Locality Plants 5) Pormation/Horizon/Geologic Age Dakota Fm. unknown Lower Cretaceous 5) Description of Geology and Topography Soulders of Dakota Sandstone capping this part of Timber Mt. A limb cast over 1.5 meters in length found in-situ in a large boulder of Dakota Sandstone. Specimen Ressil wood 8) Paleoecologic Inferences High energy stream channel sands. 9) Ressearch Potential/Significance Low 10) Recommendations for Further Work No further work required at this time. 11) Known Collections/Excavations/Publications/Other Forms N/A 12) Sensitivity Critical significant important important unknown II. ADMINISTRATIVE DATA: 15) Fossil Storage N/A | Northing: | Easting: | | | |
| 5) Pormation/Horizon/Ocologic Age Dakota Fm. unknown Lower Cretaceous 5) Description of Geology and Topography 30ulders of Dakota Sandstone capping this part of Timber Mt. A limb cast over 1.5 meters in length found in-situ in a large boulder of Dakota Sandstone. Specimen (SSI wood 8) Palcoccologic Inferences High energy stream channel sands. 9) Research Potential/Significance Low 10) Recommendations for Further Work No further work required at this time. 11) Known Collections/Excavations/Publications/Other Forms N/A 12) Sensitivity Critical Significant Important | . PALEONTOLOGICAL DATA: | | | | |
| Description of Geology and Topography Soulders of Dakota Sandstone capping this part of Timber Mt. A limb cast over 1.5 meters in length found in-situ in a large boulder of Dakota Sandstone. Specimen | Type of Locality Plants | | | | |
| Boulders of Dakota Sandstone capping this part of Timber Mt. A limb cast over 1.5 meters in length found in-situ in a large boulder of Dakota Sandstone. Specimen Ossil wood 8) Paleoecologic Inferences High energy stream channel sands. 9) Research Potential/Significance Low 10) Recommendations for Further Work No further work required at this time. 11) Known Collections/Excavations/Publications/Other Forms N/A 12) Sensitivity | 5) Formation/Horizon/Geologic Age | Dakota Fm. | unknown | | Lower Cretaceous |
| Specimen Fossil wood 8) Paleoccologic Inferences High energy stream channel sands. 9) Research Potential/Significance Low 10) Recommendations for Further Work No further work required at this time. 11) Known Collections/Excavations/Publications/Other Forms N/A 12) Sensitivity | | | | | |
| 8) Paleoccologic Inferences High energy stream channel sands. 9) Research Potential/Significance Low 10) Recommendations for Further Work No further work required at this time. 11) Known Collections/Excavations/Publications/Other Forms N/A 12) Sensitivity | Boulders of Dakota Sandstone capping to Dakota Sandstone. | nis part of Timber Mt. | A limb cast over 1.5 met | ters in length found in- | situ in a large boulder of |
| 8) Paleoecologic Inferences High energy stream channel sands. 9) Research Potential/Significance Low 10) Recommendations for Further Work No further work required at this time. 11) Known Collections/Excavations/Publications/Other Forms N/A 12) Sensitivity | Specimen | | | | • |
| High energy stream channel sands. 9) Research Potential/Significance Low 10) Recommendations for Further Work No further work required at this time. 11) Known Collections/Excavations/Publications/Other Forms N/A 12) Sensitivity | fossil wood | | | | |
| High energy stream channel sands. 9) Research Potential/Significance Low 10) Recommendations for Further Work No further work required at this time. 11) Known Collections/Excavations/Publications/Other Forms N/A 12) Sensitivity | | | | | |
| High energy stream channel sands. 9) Research Potential/Significance Low 10) Recommendations for Further Work No further work required at this time. 11) Known Collections/Excavations/Publications/Other Forms N/A 12) Sensitivity | | | | | |
| High energy stream channel sands. 9) Research Potential/Significance Low 10) Recommendations for Further Work No further work required at this time. 11) Known Collections/Excavations/Publications/Other Forms N/A 12) Sensitivity | | | · | | |
| High energy stream channel sands. 9) Research Potential/Significance Low 10) Recommendations for Further Work No further work required at this time. 11) Known Collections/Excavations/Publications/Other Forms N/A 12) Sensitivity | | | | | |
| High energy stream channel sands. 9) Research Potential/Significance Low 10) Recommendations for Further Work No further work required at this time. 11) Known Collections/Excavations/Publications/Other Forms N/A 12) Sensitivity | | | | | |
| High energy stream channel sands. 9) Research Potential/Significance Low 10) Recommendations for Further Work No further work required at this time. 11) Known Collections/Excavations/Publications/Other Forms N/A 12) Sensitivity | | | | | |
| High energy stream channel sands. 9) Research Potential/Significance Low 10) Recommendations for Further Work No further work required at this time. 11) Known Collections/Excavations/Publications/Other Forms N/A 12) Sensitivity | | | | | |
| 9) Research Potential/Significance Low 10) Recommendations for Further Work No further work required at this time. 11) Known Collections/Excavations/Publications/Other Forms N/A 12) Sensitivity | 3) Paleoecologic Inferences | | | | |
| 10) Recommendations for Further Work No further work required at this time. 11) Known Collections/Excavations/Publications/Other Forms N/A 12) Sensitivity | High energy stream channel sands. | | | | |
| 10) Recommendations for Further Work No further work required at this time. 11) Known Collections/Excavations/Publications/Other Forms N/A 12) Sensitivity | | | | | |
| 10) Recommendations for Further Work No further work required at this time. 11) Known Collections/Excavations/Publications/Other Forms N/A 12) Sensitivity | | | | | |
| 10) Recommendations for Further Work No further work required at this time. 11) Known Collections/Excavations/Publications/Other Forms N/A 12) Sensitivity | 9) Research Potential/Significance | | | | |
| 10) Recommendations for Further Work No further work required at this time. 11) Known Collections/Excavations/Publications/Other Forms N/A 12) Sensitivity | | | | | |
| No further work required at this time. 11) Known Collections/Excavations/Publications/Other Forms N/A 12) Sensitivity | 2011 | | | | |
| No further work required at this time. 11) Known Collections/Excavations/Publications/Other Forms N/A 12) Sensitivity | | | | | |
| No further work required at this time. 11) Known Collections/Excavations/Publications/Other Forms N/A 12) Sensitivity | | | | | |
| 11) Known Collections/Excavations/Publications/Other Forms N/A 12) Sensitivity | | <i>W</i> ork | | | |
| 12) Sensitivity | No further work required at this time. | | | | |
| 12) Sensitivity | • | | | | |
| 12) Sensitivity | | | | | |
| 12) Sensitivity | 11) Known Collections/Excavations | s/Publications/Oth | er Forms | | |
| 12) Sensitivity ○ Critical ○ significant ○ important ● insignificant ○ unknown II. ADMINISTRATIVE DATA: 15) Fossil Storage N/A | | | | | |
| II. ADMINISTRATIVE DATA: 15) Fossil Storage N/A | | | | | |
| II. ADMINISTRATIVE DATA: 15) Fossil Storage N/A | | | | | |
| II. ADMINISTRATIVE DATA: 15) Fossil Storage N/A | | | | | |
| 15) Fossil Storage N/A | 12) Sensitivity O Critical O sign | gnificant O impor | rtant | Ounknown | |
| 15) Fossil Storage N/A | II. ADMINISTRATIVE DATA: | | | | |
| 144400 | | | al and a second and | - Jak | |
| 16) Recorder DLN Date 11/1/98 | | | | | 11/1/08 |
| | 16) Recorder DLN | | | Date | 11/1/90 |

|) Resource No. 05/30/98-02 | PALEO | NTOLOGICAL C | OMPONENT FOR | 141 |
|--|---|---|-----------------------------|-------------------------|
| | 2) TempNo: | 49 3) Site Nar | ne Niobrara Fish | |
| Northing: | Easting: | | | |
| PALEONTOLOGICAL DATA: | , | · | | |
| Type of Locality Invertebrate, Vertebr | ate | | | ٠ |
|) Formation/Horizon/Geologic Age | Niobrara Fm. | unknown | U | pper Cretaceous |
| , Description of Geology and Topograp | hv | - | | |
| his site is in the banks of a modern intermit ark grey weathering to a very light grey. It re | ttent stream chann | el. The site is a shaley li e to flaggy. | mestone about 6 meters th | nick. This limestone is |
| pecimen | | | | |
| noceramus sp. | | | | |
| nchodus sp. | | | | |
| Osteichtyes teeth & bones | | | | |
| sh scales | | | | |
| P) Research Potential/Significance High. The fish fossils are under study and nure not common in the Western Interior Seatone fossil that would be equivalent to the F | away. They most cle | osely resemble the Euro | pean taxon, Cremnoceran | ius crassus which is a |
| ınder study. | | | | |
| 10) Recommendations for Further Wor | | 1 1 C N | Ai Fish form this int | and are not common |
| t is possible that the Inocerimid is a new ta Further recovery of fossils and research is h | kon or a taxon not y nighly recommende | yet reported from North / ed. | America. Fish from this int | ervar are not common. |
| 11) Known Collections/Excavations/P N/A | ublications/Othe | er Forms | | |
| 12) Sensitivity Critical signif | icant Oimpor | tant O insignificant | Ounknown | |
| II. ADMINISTRATIVE DATA: | | | | |
| 15) Fossil Storage Ft. Carson | | | | |
| 16) Recorder DLN | | | Date | 11/1/98 |
| , | | | 1 | 1 |

| 1) Resource No. 05/31/98-01 | | PALEC | NTOL | OGICAL C | OMPON. | ENT FORM | |
|--|---|---|-------------------------------------|-------------------|---------------|-------------------------|---------------|
| | | 2) TempNo: | 50 | 3) Site Nar | me Sharon | Springs Fish | |
| Northing: | | Easting: | | | | | |
| PALEONTOLOG | CAL DATA: | | | | | | |
|) Type of Locality | Vertebrate | | | | | | • |
| . D | (Caslaria Ara | Pierre Sh | Sha | ron Springs M | 1h | Unner C | retaceous |
| Formation/Horiz | | | 3116 | IIOII Opiiligo iv | iD. | Оррего | |
| Description of Ge | | | Snrings Sh | ale The shale | is dark grev | weathering to a ligh | t silver grev |
| he shale is fissile wit | | | | idio. Tito orialo | , 10 aa g. e, | | g,. |
| pecimen | | | | | | • | |
| sh vertebra | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | expected vertebrate | e fossils. | | | | |
|) Paleoecologic Info his is normal Sharon) Research Potenti | Springs without the | expected vertebrate | e fossils. | | | | |
| his is normal Sharon Research Potenti | Springs without the | expected vertebrate | e fossils. | | | | · |
| his is normal Sharon | Springs without the | expected vertebrate | e fossils. | | | | · |
| his is normal Sharon) Research Potenti ledium to Low | Springs without the | | e fossils. | | | | |
| his is normal Sharon Research Potenti Medium to Low | Springs without the al/Significance | ork | | | d The look | of foosilg is not quart | by This site |
| his is normal Sharon) Research Potenti Medium to Low O) Recommendation Since this is a good expression | Springs without the al/Significance ons for Further Wo | ork prings Shale a care | ful survey | | d. The lack o | of fossils is noteworth | hy. This site |
| his is normal Sharon Research Potenti Medium to Low | Springs without the al/Significance ons for Further Workposure of Sharon String 2-5 years to see | ork prings Shale a care if any fossils have b | ful survey een expos | ed. | d. The lack o | of fossils is notewortl | hy. This site |
| his is normal Sharon) Research Potenti fedium to Low 0) Recommendation ince this is a good exhould be re-surveyed | Springs without the al/Significance ons for Further Workposure of Sharon String 2-5 years to see | ork prings Shale a care if any fossils have b | ful survey een expos | ed. | d. The lack o | of fossils is notewortl | hy. This site |
| his is normal Sharon) Research Potenti fedium to Low 0) Recommendation ince this is a good exhould be re-surveyed | Springs without the al/Significance ons for Further Workposure of Sharon String 2-5 years to see | ork prings Shale a care if any fossils have b | ful survey een expos | ed. | d. The lack o | of fossils is noteworti | hy. This site |
| his is normal Sharon) Research Potenti ledium to Low 0) Recommendation ince this is a good exhould be re-surveyed | Springs without the al/Significance ons for Further Workposure of Sharon String 2-5 years to see | ork prings Shale a care if any fossils have b | ful survey een expos | ed. | d. The lack o | of fossils is notewortl | hy. This site |
| his is normal Sharon) Research Potenti ledium to Low 0) Recommendation ince this is a good explosed by the re-surveyed 1) Known Collection | Springs without the al/Significance ons for Further Workposure of Sharon String 2-5 years to see | ork prings Shale a care if any fossils have b Publications/Oth | ful survey een expos er Forms | ed. | d. The lack o | | hy. This site |
| his is normal Sharon) Research Potenti fedium to Low 0) Recommendation ince this is a good explored by the re-surveyed 1) Known Collection I/A | Springs without the al/Significance ons for Further Workposure of Sharon Stin 2-5 years to see ons/Excavations/ | ork prings Shale a care if any fossils have b Publications/Oth | ful survey een expos er Forms | ed. | | | hy. This site |
| his is normal Sharon Research Potenti Medium to Low Recommendation | Springs without the al/Significance ons for Further Workposure of Sharon Stin 2-5 years to see ons/Excavations/ | ork prings Shale a care if any fossils have b Publications/Oth | ful survey een expos er Forms | ed. | | | hy. This site |

| 1) Resource No. 07/04/98-01 | <u>PALEON</u> | TOLOGICAL COMPO | NENT FORM |
|--|--|--|---------------------------------------|
| | 2) TempNo: | 51 3) Site Name Morriso | on East |
| Northing: | Easting: | | |
| . PALEONTOLOGICAL DATA: | | | |
| Type of Locality Vertebrate | · | | |
| 5) Formation/Horizon/Geologic A | age Morrison Fm. | Upper Morrison | Jurassic |
| b) Description of Geology and Top | oography | | |
| This site is towards the east end of Si armored with rubble from the Dakota | ıllivan Park. The slopes on t Sandstones. | the south contain Morrison silts; | but these slope are vegetated and |
| Specimen | | _ | |
| Dino bone | | _ | |
| Algal limestone | | _ | |
| | | • | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| 8) Paleoecologic Inferences | | | |
| The algal limestone observed at this s | ite is the same as at the Dir | no Hill sites. This limestone is, or | ne way or the other, near the contact |
| of the Middle and Upper Morrison thro | oughout the Sullivan Park ar | ea. This is an ideal marker bed f | or this area. |
| | | | |
| | | | |
| 9) Research Potential/Significan | 20 | | |
| , | | | |
| Low to Medium. While dino bone was | observed at this site the ve | getated and armored nature of tr | ne surface is less than ideal |
| | | | |
| | | | |
| | | | |
| 10) Recommendations for Furthe | r Work | | |
| Any disturbance, natural or man-mad | e, should be examined for p | otential fossils. | |
| | | | |
| | | | |
| | | | |
| 11) Known Collections/Excavation | ns/Publications/Other | Forms | |
| N/A | , | | |
| N/A | | | |
| | | | |
| | | | |
| | | | |
| 12) Sensitivity () Critical (| significant | nt 🔾 insignificant 🔾 unkr | nown |
| , | | - | |
| II. ADMINISTRATIVE DATA: | | | |
| 15) Fossil Storage N/A | | and the second s | |
| p | | | |
| 16) Recorder DLN | | | Date 11/1/98 |
| | | | |

| 5) Formation/Horizon/Geologic Age Purgatorie Fm. Lytle Mb. Lower Cretaceous 6) Description of Geology and Topography This site is near the contact of the Morrison and the Lytle in the Dino Hills area. The Lytle at this site is a pebble conglomerate with common casts of fossil wood and opalized wood. Specimen fossil wood 8) Paleoecologic Inferences Stream deposits. 9) Research Potential/Significance This site should be studied with the sites at Dino Hill as the contact between the Morrison and the Lytle. 10) Recommendations for Further Work This site should be included with any studies of Dino Hill 11) Known Collections/Excavations/Publications/Other Forms | 1) Resource No. 07 | ′18/98-01 | PALEONTOLOGICAL COMPONENT FORM | | | | | |
|---|------------------------|------------------------|--|--------------------|---------------------------------------|----------------------------|--|--|
| ## PALEONTOLOGICAL DATA: 4) Type of Locality Plants 5) Formation/Horizon/Geologic Age Purgatorie Fm. Lytle Mb. Lower Cretaceous 6) Description of Geology and Topography This site is near the contact of the Morrison and the Lytle in the Dino Hills area. The Lytle at this site is a pebble conglomerate with common casts of fossil wood and opalized wood. **Specimen** **Tossil wood** 8) Paleoecologic Inferences **Stream deposits.** 9) Research Potential/Significance This site should be studied with the sites at Dino Hill as the contact between the Morrison and the Lytle. 10) Recommendations for Purther Work This site should be included with any studies of Dino Hill 11) Known Collections/Excavations/Publications/Other Forms N/A 12) Sensitivity Critical © significant important insignificant Qunknown **LADMINISTRATIVE DATA:** 15) Possil Storage N/A | | | 2) TempNo: | 52 3) Sit | te Name Bob's Lytle | Wood - | | |
| 4) Type of Locality Plants 5) Formation/Horizon/Geologic Age Purgatorie Fm. Lytle Mb. Lower Cretaceous 6) Description of Geology and Topography This site is near the contact of the Morrison and the Lytle in the Dino Hills area. The Lytle at this site is a pebble conglomerate with common casts of fossil wood and opalized wood. Specimen | Northing: | | Easting: | | | | | |
| 5) Formation/Horizon/Geologic Age Purgatorie Fm. Lytle Mb. Lower Cretaceous 6) Description of Geology and Topography This site is near the contact of the Morrison and the Lytle in the Dino Hills area. The Lytle at this site is a pebble conglomerate with common casts of fossil wood and opalized wood. Specimen fossil wood 8) Paleoecologic Inferences Stream deposits. 9) Research Potential/Significance This site should be studied with the sites at Dino Hill as the contact between the Morrison and the Lytle. 10) Recommendations for Further Work This site should be included with any studies of Dino Hill 11) Known Collections/Excavations/Publications/Other Forms N/A 12) Sensitivity Critical Significant Important Insignificant Unriknown II. ADMINISTRATIVE DATA: 15) Possil Storage N/A | I. PALEONTOLOG | ICAL DATA: | | | | | | |
| Specimen Specimen | 4) Type of Locality | Plants | and property and the second | | | | | |
| Specimen Specimen | | | D | 1.41- 846 | ! | Louis Crotocous | | |
| This site is near the contact of the Morrison and the Lytle in the Dino Hills area. The Lytle at this site is a pebble conglomerate with common casts of fossil wood and opalized wood. Specimen fossil wood 8) Paleoecologic Inferences Stream deposits. 9) Research Potential/Significance This site should be studied with the sites at Dino Hill as the contact between the Morrison and the Lytle. 10) Recommendations for Further Work This site should be included with any studies of Dino Hill 11) Known Collections/Excavations/Publications/Other Forms N/A 12) Sensitivity | • | | | Lytie Mb. | | Lower Cretaceous | | |
| Specimen fossil wood 8) Paleoecologic Inferences Stream deposits. 9) Research Potential/Significance This site should be studied with the sites at Dino Hill as the contact between the Morrison and the Lytle. 10) Recommendations for Further Work This site should be included with any studies of Dino Hill 11) Known Collections/Excavations/Publications/Other Forms N/A 12) Sensitivity | • - | | | Dine Hille eres. T | The 1 title of this site is | a pobble conglemerate with | | |
| 8) Paleoecologic Inferences Stream deposits. 9) Research Potential/Significance This site should be studied with the sites at Dino Hill as the contact between the Morrison and the Lytle. 10) Recommendations for Further Work This site should be included with any studies of Dino Hill 11) Known Collections/Excavations/Publications/Other Forms N/A 12) Sensitivity | | | | Dino milis area. 1 | . He Lytie at this site is | a pennie congiomerate with | | |
| 8) Paleoecologic Inferences Stream deposits. 9) Research Potential/Significance This site should be studied with the sites at Dino Hill as the contact between the Morrison and the Lytle. 10) Recommendations for Further Work This site should be included with any studies of Dino Hill 11) Known Collections/Excavations/Publications/Other Forms N/A 12) Sensitivity | Specimen | | | | | | | |
| Stream deposits. 9) Research Potential/Significance This site should be studied with the sites at Dino Hill as the contact between the Morrison and the Lytle. 10) Recommendations for Further Work This site should be included with any studies of Dino Hill 11) Known Collections/Excavations/Publications/Other Forms N/A 12) Sensitivity | fossil wood | | | Τ | | | | |
| Stream deposits. 9) Research Potential/Significance This site should be studied with the sites at Dino Hill as the contact between the Morrison and the Lytle. 10) Recommendations for Further Work This site should be included with any studies of Dino Hill 11) Known Collections/Excavations/Publications/Other Forms N/A 12) Sensitivity | | | | | | | | |
| Stream deposits. 9) Research Potential/Significance This site should be studied with the sites at Dino Hill as the contact between the Morrison and the Lytle. 10) Recommendations for Further Work This site should be included with any studies of Dino Hill 11) Known Collections/Excavations/Publications/Other Forms N/A 12) Sensitivity | | | | | | | | |
| Stream deposits. 9) Research Potential/Significance This site should be studied with the sites at Dino Hill as the contact between the Morrison and the Lytle. 10) Recommendations for Further Work This site should be included with any studies of Dino Hill 11) Known Collections/Excavations/Publications/Other Forms N/A 12) Sensitivity | | | | | | , | | |
| Stream deposits. 9) Research Potential/Significance This site should be studied with the sites at Dino Hill as the contact between the Morrison and the Lytle. 10) Recommendations for Further Work This site should be included with any studies of Dino Hill 11) Known Collections/Excavations/Publications/Other Forms N/A 12) Sensitivity | | | | | | | | |
| Stream deposits. 9) Research Potential/Significance This site should be studied with the sites at Dino Hill as the contact between the Morrison and the Lytle. 10) Recommendations for Further Work This site should be included with any studies of Dino Hill 11) Known Collections/Excavations/Publications/Other Forms N/A 12) Sensitivity | | | | | | | | |
| Stream deposits. 9) Research Potential/Significance This site should be studied with the sites at Dino Hill as the contact between the Morrison and the Lytle. 10) Recommendations for Further Work This site should be included with any studies of Dino Hill 11) Known Collections/Excavations/Publications/Other Forms N/A 12) Sensitivity | | | | | | | | |
| Stream deposits. 9) Research Potential/Significance This site should be studied with the sites at Dino Hill as the contact between the Morrison and the Lytle. 10) Recommendations for Further Work This site should be included with any studies of Dino Hill 11) Known Collections/Excavations/Publications/Other Forms N/A 12) Sensitivity | 8) Paleoecologic Inf | erences | | | | | | |
| This site should be studied with the sites at Dino Hill as the contact between the Morrison and the Lytle. 10) Recommendations for Further Work This site should be included with any studies of Dino Hill 11) Known Collections/Excavations/Publications/Other Forms N/A 12) Sensitivity | Stream deposits. | | | | | | | |
| This site should be studied with the sites at Dino Hill as the contact between the Morrison and the Lytle. 10) Recommendations for Further Work This site should be included with any studies of Dino Hill 11) Known Collections/Excavations/Publications/Other Forms N/A 12) Sensitivity | | | | | | | | |
| This site should be studied with the sites at Dino Hill as the contact between the Morrison and the Lytle. 10) Recommendations for Further Work This site should be included with any studies of Dino Hill 11) Known Collections/Excavations/Publications/Other Forms N/A 12) Sensitivity | | | | | | , | | |
| 10) Recommendations for Further Work This site should be included with any studies of Dino Hill 11) Known Collections/Excavations/Publications/Other Forms N/A 12) Sensitivity | 9) Research Potenti | ial/Significance | | | | | | |
| This site should be included with any studies of Dino Hill 11) Known Collections/Excavations/Publications/Other Forms N/A 12) Sensitivity | This site should be st | udied with the sites a | at Dino Hill as the co | ntact between the | Morrison and the Lytle | е. | | |
| This site should be included with any studies of Dino Hill 11) Known Collections/Excavations/Publications/Other Forms N/A 12) Sensitivity | | | | | | | | |
| This site should be included with any studies of Dino Hill 11) Known Collections/Excavations/Publications/Other Forms N/A 12) Sensitivity | | | | • | | | | |
| 11) Known Collections/Excavations/Publications/Other Forms N/A 12) Sensitivity | 10) Recommendation | ons for Further Wo | ork | | | | | |
| 12) Sensitivity Critical Significant important insignificant unknown II. ADMINISTRATIVE DATA: 15) Fossil Storage N/A | This site should be in | cluded with any stud | ies of Dino Hill | | | | | |
| 12) Sensitivity Critical Significant important insignificant unknown II. ADMINISTRATIVE DATA: 15) Fossil Storage N/A | : | | | | | | | |
| 12) Sensitivity Critical Significant important insignificant unknown II. ADMINISTRATIVE DATA: 15) Fossil Storage N/A | | | | | | | | |
| 12) Sensitivity Critical Significant important insignificant unknown II. ADMINISTRATIVE DATA: 15) Fossil Storage N/A | 11) Known Collecti | ons/Excavations/ | Publications/Othe | er Forms | | | | |
| II. ADMINISTRATIVE DATA: 15) Fossil Storage N/A | N/A | | | | | | | |
| II. ADMINISTRATIVE DATA: 15) Fossil Storage N/A | | | | | | | | |
| II. ADMINISTRATIVE DATA: 15) Fossil Storage N/A | | | | | | | | |
| 15) Fossil Storage N/A | 12) Sensitivity |) Critical 💿 sign | ificant O import | tant O insigni | ficant Ounknown | ı | | |
| 15) Fossil Storage N/A | II. ADMINISTRATI | VE DATA: | | | | | | |
| | | | , | | • | | | |
| 16) Recorder ULN Date 11/1/98 | | | Market and the second s | | · · · · · · · · · · · · · · · · · · · | 44/4/00 | | |
| | 16) Recorder DLN | | | | | Date 11/1/98 | | |

| 1) Resource No. 07/ | 19/98-01 | PALEONTOLOGICAL COMPONENT FORM | | | | |
|---|--|---|---|---|-------------------------------------|--|
| | | 2) TempNo: | 53 3) Site Na | ame J. L.'s North | | |
| Northing: | | Easting: | | | | |
| I. PALEONTOLOG | ICAL DATA: | | | | | |
| 4) Type of Locality | Invertebrate, Verteb | orate | | • | | |
| 5) Formation/Horiz | on/Geologic Age | Carlile Fm. | Juana Lopez Mb |). | Upper Cretaceous | |
| 6) Description of Ge | cology and Topogra | aphy | | | | |
| This site is a highly for Codell Sandstone, Jua | ssiliferous exposure on a Lopez, and the F | of the Juana Lopez in ort Hayes; the various | the bed of a modern s rocks are exposed in | intermittent stream. In the banks and strea | This stream cuts through the m bed. | |
| Specimen | | | - · · · | | | |
| Pironocycles sp. | | | | | | |
| Ptychotrygon triangula | nris | | <u></u> | | | |
| Lamniformes shark | | | | | | |
| Osteichtyes teeth & be | ones | | | | | |
| 8) Paleoecologic Info This section of Juana 9) Research Potenti High. Vertebrate fossi Juana Lopez observed | Lopez is a rich lag of all/Significance | | onites are more comn | non at this site than a | t any other exposure of the | |
| 10) Recommendation | ons for Further Wo | ork | | | | |
| Material from this site excellent location to m | | pated to recover the c | oncentrations of fossi | il vertebrates. This str | eam bed would be an | |
| 11) Known Collecti | ons/Excavations/ | Publications/Othe | r Forms | | | |
| N/A | | | | | | |
| | | | | | | |
| 12) Sensitivity | Critical Osign | ificant O import | ant O insignificar | nt Ounknown | | |
| II. ADMINISTRATI | VE DATA: | | | | | |
| 15) Fossil Storage | N/A | | | | | |
| 16) Recorder DLN | 12.20 | | , | Da | 11/1/98 | |
| , , | | | | ı | i i | |